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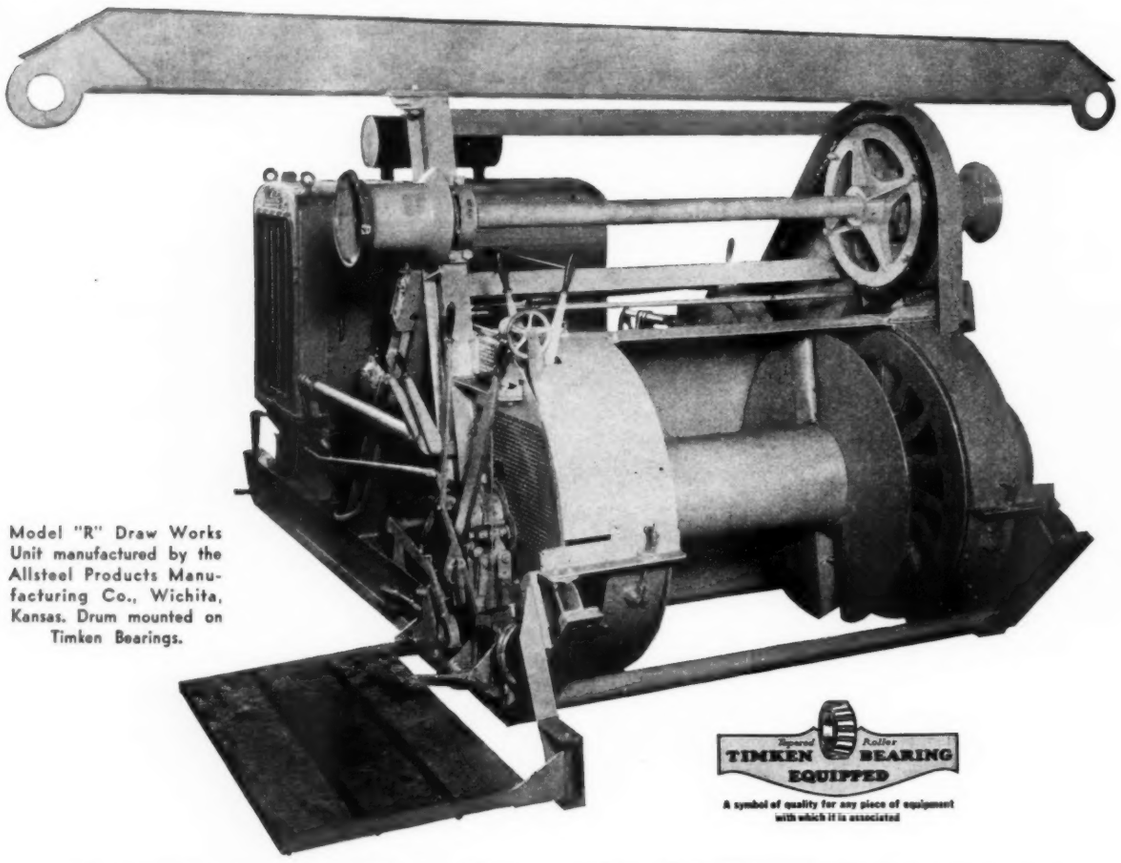
WHAT EVERY OIL FIELD OPERATOR WANTS



Model "R" Draw Works Unit manufactured by the Allsteel Products Manufacturing Co., Wichita, Kansas. Drum mounted on Timken Bearings.

Tapered Roller
TIMKEN BEARING
EQUIPPED

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TIMKEN *TAPERED ROLLER* BEARINGS

Crude Production at New High Record

LEAPING in spectacular fashion from an exceptionally low record in the preceding week, daily average crude production in the United States touched an all-time peak in the week ending December 12, with a total of 3,103,967 barrels. This was an increase of 114,794 barrels over the week before and an increase of 16,082 barrels over the previous high mark established in the week ending October 26, 1936. The biggest increase was in Oklahoma, 63,100 barrels above the preceding week. California's increase was 21,500 barrels. In Texas it was 14,247 barrels and in Kansas 12,700 barrels. Each of these states, comprising the principal oil-producing areas, overshot not only the recommended allowable of the Bureau of Mines, but its own state allowable as well. Both Oklahoma and Kansas had fixed their state allowables 5 per cent above those set by the Bureau of Mines, following the action of the Texas Railroad Commission in ignoring the bureau's recommendation.

Whether the greater crude supply is being absorbed cannot be determined yet, as the latest report on the country's crude stocks is that of November 28, when they had dropped to 288,630,000 barrels. The week brought no developments to indicate whether the advance of 17 cents in the price of crude announced by the Continental Oil Company, effective January 4, would be generally followed by major buyers. Opinion in the industry remains divided as to the wisdom of the prospective price increase and as to what course will be followed by other buyers. Special importance attaches to the action to be taken by the major oil-producing states with reference to the January allowables.

Production 3,103,967

Increase 114,794

Predictions are made by some observers that Texas, Oklahoma and Kansas will revert to their former policy of observing the production recommendations of the Bureau of Mines. Reports indicate that purchasing companies in Texas will ask for more crude in January than they did in December. The crude market continues tight, with buyers endeavoring to get additional connections in order to increase their January supplies.

Unusual vigor was exhibited by almost all divisions of the market in refined products, with kerosene in a particularly strong position. Its sister product, prime white distillate, was keeping step with it, and the whole range of light fuels was in lively demand, with stocks increasingly scarce. Gasoline, though this is the season of declining consumption, was firm.

A wildcat in Texas County, Oklahoma Panhandle, was showing for a probable gas-pool opener. A test well between the Hauschild and Saxman pools in Rice County, Kansas, was expected to connect the two pools. The new pool in the Sligo field in North Louisiana was extended a mile north.

Daily Average Production for Week

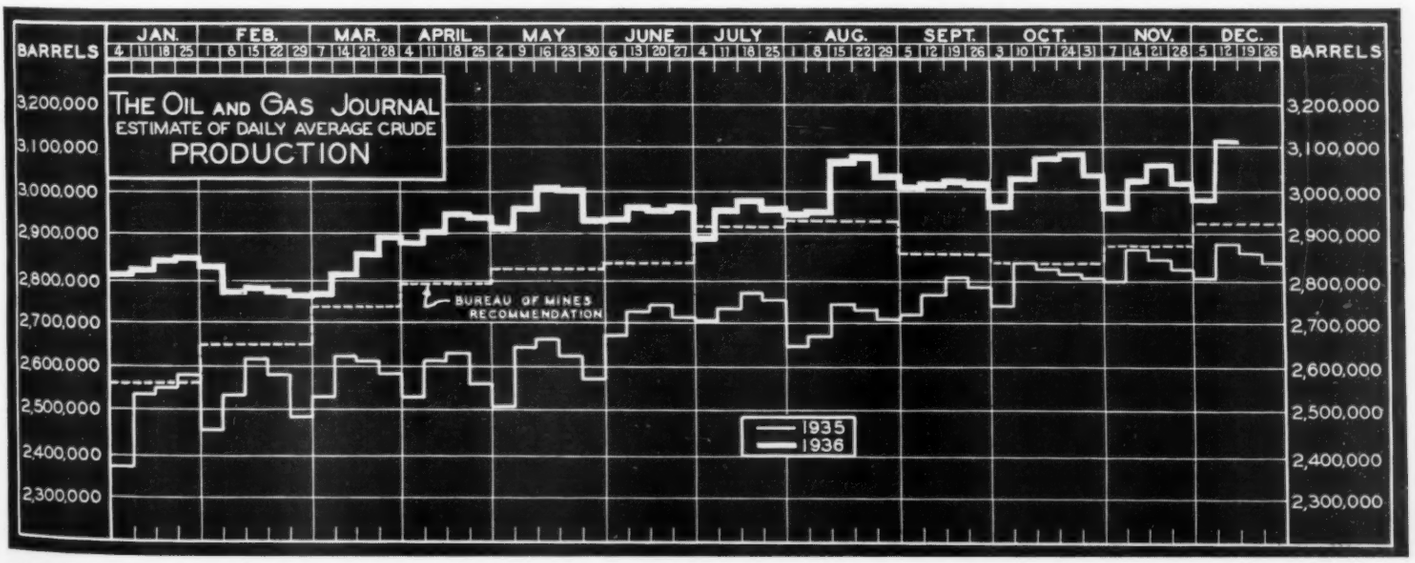
	Dec. 12, 1936	Bur. Mines Dec. est.	Dec. state allowable	Dec. 5, 1936
Oklahoma City	164,900	.....	.....	113 575
Seminole-St. Louis	90,800	.....	.....	91,250
Remainder of State	336,500	.....	.....	324,275
Total Oklahoma	592,200	567,000	595,350	529,100
East Texas	444,947	.....	.....	450,000
West Texas	176,695	.....	.....	169,650
North Central Texas	88,600	.....	.....	87,300
Texas Panhandle	56,897	.....	.....	62,048
East Central Texas	84,247	.....	.....	83,900
Gulf Coast—Texas	256,656	.....	.....	241,350
Southwest Texas	88,050	.....	.....	87,597
Total State of Texas	1,196,092	1,145,200	1,201,470	1,181,845
North Louisiana	78,855	.....	.....	79,695
Gulf Coast—Louisiana	161,000	.....	.....	159,296
Total Louisiana	239,855	204,800	238,350	238,991
Santa Fe Springs	45,500	.....	.....	44,200
Long Beach	64,600	.....	.....	65,000
Kettleman Hills	77,300	.....	.....	76,100
Remainder of State	405,100	.....	.....	385,700
Total California	592,500	553,400	*551,000	571,000
Kansas	172,900	155,900	163,225	160,200
Arkansas	28,215	26,800	.....	27,720
Eastern Fields	114,000	110,600	.....	113,400
Michigan	28,235	29,300	.....	29,697
Southeastern New Mexico	75,260	77,270	85,155	74,290
Rocky Mountain area	64,710	60,030	.....	62,930
Total United States	3,103,967	2,930,300	.....	2,989,173

*Recommendation of Central Committee of California Oil Producers.

Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATES)

Week ending November 28, 1936	288,630,000
Week ending November 21, 1936	289,454,000
Week ending November 30, 1935	315,558,000



SPARKS FROM THE NEWS

Question

"Gasoline" or "Taxoline"? asks Saturday Evening Post in editorial on gasoline taxes in current issue (December 19).

Tip

An observer suggests that buyers looking for excess crude would have better luck in some areas if they turned their attention to gasoline.

Verbiage

The Madison case promises to add to the legal vocabulary of the industry, if nothing else.

Possibility

Captain Rickenbacker visions 200-passenger super-airliners crossing oceans at 300 m.p.h. powered by 16 engines burning diesel fuels.

Necessity

Need of additional crude by several companies points to extension of pipe line systems to flush fields.

Going Down

Stocks of heavy California crude have been decreased more than 50,000,000 barrels since their peak of more than 100,000,000 barrels.

Some Train

If all the oil consumed daily in the U. S. were transported in ordinary tankcars drawn by one locomotive the train would be 125 miles long.

P.B.

Revival of interest in shallow sands reflects in part the failure of the deeper ones.

Alternative

An observer suggests monthly overproduction threat could be solved by permitting each state's allowable to be determined by remaining states.

Take-off

U. S. Motor vehicle registrations will total 28,500,000 by end of year, exceeding previous peak by 1,800,000. A good start for a new peak in gasoline consumption.

Offset

Purchasing agents faced with ascending quotations on materials and equipment are aware of the need for higher crude oil and refinery prices the coming year.

Silver Lining

Fair trade practice acts upheld by Supreme Court may give marketing companies control over sale of their branded products.

Conflict

The "emergency" federal tax on gasoline imposed in 1932 is still on although the administration announced long ago the emergency had passed.

WORLD'S LARGEST TIRES

Ten feet high, three feet wide, and used by Gulf Oil Corp. Amphibian "marsh buggy" which carries Gulf geophysicists over land or water

O.K.

Oklahoma legislature leads the way by approving extension of Interstate Oil Compact.

Fair Trade Decision Will Affect Practices in Oil Marketing

WASHINGTON, D. C., Dec. 14. Developments in legislation and judicial decisions having to do with fair trade practices are being closely watched by the oil industry due to the tie-in with current marketing problems. Most of the major marketing companies over the past year have largely withdrawn from station operation under contractual arrangements which are adaptations of the so-called "Iowa Plan" under which stations are turned over to independent dealers. One of the weaknesses of this plan is that the marketing companies lose control over the consumer prices charged for their branded products. It is thought that trade practices acts may enable the companies to divorce themselves from station operation and at the same time prevent their products be sold at cut-rate prices.

The extent to which resale price maintenance contracts will be a factor in the oil industry will be determined largely by the attitude of the major refiners, in the opinion of observers here.

It is the belief that independent retailers and jobbers will demand that refiners enter such contracts to maintain the retail prices of gasoline in states where this is permitted and that most companies will adopt this policy provided that they can do so without violating federal law.

Fifteen states now have so-called fair trade laws permitting price maintenance contracts and the Supreme Court on December 7 upheld the validity of these laws as far as the federal constitution is concerned. A concerted drive for enactment of similar laws in other states is already under way, led principally by retail drug and grocery interests, and since more than 40 state legislatures will be in session this winter, it is expected

Effect of the Supreme Court Ruling

Refiners may set resale price of branded products by contract with dealers in 15 states having fair trade laws.

Drive for similar laws expected before other legislatures.

Tydings' fair trade bill, passed by Senate, to be pressed at Washington. It permits contracts in interstate commerce for maintaining resale prices in states having fair trade laws.

Price changes would have to be state-wide in states having fair trade laws.

Fair trade laws do not permit price fixing by agreement among competitors but only between producers of branded articles and reseller.

Under such laws in states where some dealers are under contract no other dealer may sell branded products at lower prices even though he has no contract.

It has special interest to the oil industry in view of the "Iowa plan."

that a majority of states will soon have fair trade laws.

The Supreme Court's decision also gives impetus to the effort in congress to enact the so-called fair trade enabling bill sponsored by Senator Millard F. Tydings of Maryland and which passed the senate last year. This bill would amend the Sherman anti-trust act to permit contracts to be made in interstate commerce for the maintenance of resale prices within states which have fair trade acts, but not as to sales in states not permitting such contracts. At present such contracts are illegal under the Sherman act, but passage of the Tydings bill is now practically certain.

Until the Tydings bill or similar legislation is enacted an oil company runs the risk of a federal suit if it signs a price maintenance contract effective in a state other than that in which the contract is made. Distributors of some commodities have got around this difficulty by dealing through subsidiaries incorporated in each state having fair trade acts, but this is a complicated and expensive procedure.

States now having fair trade acts are Arizona, California, Illinois, Iowa, Louisiana, Maryland, New Jersey, New York, Ohio, Oregon, Pennsylvania, Rhode Island, Virginia, Washington and Wisconsin. With few exceptions, these laws are identical and provide that the producer of a trade-marked, branded or otherwise identified article which is in free and open competition with other articles of the same general class may enter a contract with dealers stipulating the price at which such article may be resold. The laws further provide that when contracts of this sort are in effect with some dealers no other dealer may wilfully and knowingly sell such commodity at a lower price even though he has no contract with the producer.

The Supreme Court's decision dealt with the Illinois and California laws, which are identical in language, and the court held that these laws do not operate to deny due process of law or equal protection of the law or otherwise violate the United States constitution.

The court pointed out, however, certain limitations in these laws which, while recognized by supporters of the price maintenance idea, are not generally well understood. In the first place, fair trade acts do not permit competing producers nor competing jobbers or retailers to agree among themselves as to the prices to be fixed. In fact, most of the state laws expressly prohibit this. The agreements are vertical rather than horizontal, and each producer must decide for himself what price is to be fixed. If there is any evidence of conspiracy among competitors to fix prices the federal and state anti-trust laws will apply as in the past.

In the second place, price maintenance may be applied only to a branded and identified article in competition with other articles of the same general description. There is no warrant for attempting to fix prices on unbranded gasoline or other articles by this method.

A third and most important limitation is that the price maintenance contract involves the brand and not the commodity. The Supreme Court drew a clear distinction between property in a commodity, which a retailer controls absolutely after purchase, and property in a trademark or brand which the owner of the brand retains even after he has sold goods to which the brand is attached. The court pointed out that a dealer may sell a branded article at any price he chooses provided he removes the brand. This would mean that a filling station could sell gasoline at a cut price in spite of resale price contracts provided there is no brand name on the pump and no other name by which the purchaser could identify the refiner of the gasoline. Of course, if a filling station operator passed off one brand of gasoline as another he would be violating state laws against misrepresentation.

A fourth consideration is that the fair trade acts are entirely voluntary. A manufacturer may set retail prices or not as he chooses and may set them at any price he chooses, or he may decline to enter resale price maintenance contracts and let his dealers do as they please with his brand. In some lines of trade, particularly drug and cosmetic, independent retailers are bringing pressure to bear on manufacturers to adopt resale price maintenance and to set the retail prices high enough to give the dealers the margin of profit they consider proper. The belief is that oil dealers will make similar efforts to induce refiners to fix prices in the same way.

While the fair trade laws were designed particularly to apply to package goods, there is little doubt but what branded gasoline is included. The laws, of course, can easily apply to other articles sold through filling stations such as packaged lubricating oil, antifreeze, tires and branded accessories. In fact, a lubricant was involved in one of the two California cases decided by the Supreme Court, the case of Pep Boys, Manny, Moe and Jack of California, vs. Pyroil Sales Co. The laws obviously will have no bearing on crude petroleum or other unbranded oil products, although fuel oil may be brought within the scope of the law if a producer can show that he has built up a good will in the trademark for his particular kind of fuel oil.

Most of the state laws make no specific provision for price changes, but it is presumed that a manufacturer may alter his established retail prices whenever he wishes provided he notifies all of his dealers. Thus, if gasoline price maintenance contracts become general there will still be opportunity for price competition and price wars among major distributors, as a distributor could alter his resale prices at any time to meet competition. Such price changes, however, would have to be statewide, and this would prevent a refiner from permitting his dealers in one community to lower prices because of a local situation without making the same price changes effective for dealers in other parts of the state.

Where a dealer such as a local filling station chain does not sign price maintenance contracts with a refiner, but obtains this refiner's branded gasoline through jobbers and then proceeds to cut the price there is a question as to what recourse is open to competing dealers who are under contract to maintain stipulated prices. It is up to the owner of the brand to protect his own property against price cutting and if he fails to be diligent in this matter for any reason apparently the only thing that retailers can do is to terminate their contracts and refuse to handle this brand in the future.

While the Supreme Court has held that state fair trade laws do not violate the federal constitution, some state constitutions may prohibit resale price maintenance. The highest court in New York has held that while price maintenance contracts are legal in that state, dealers who do not sign such contracts but who manage to obtain branded articles in one way or another are not obliged to follow the prices stipulated in contracts with other dealers. In New Jersey a lower state court has made a similar ruling.

(Continued on Page 27)

340

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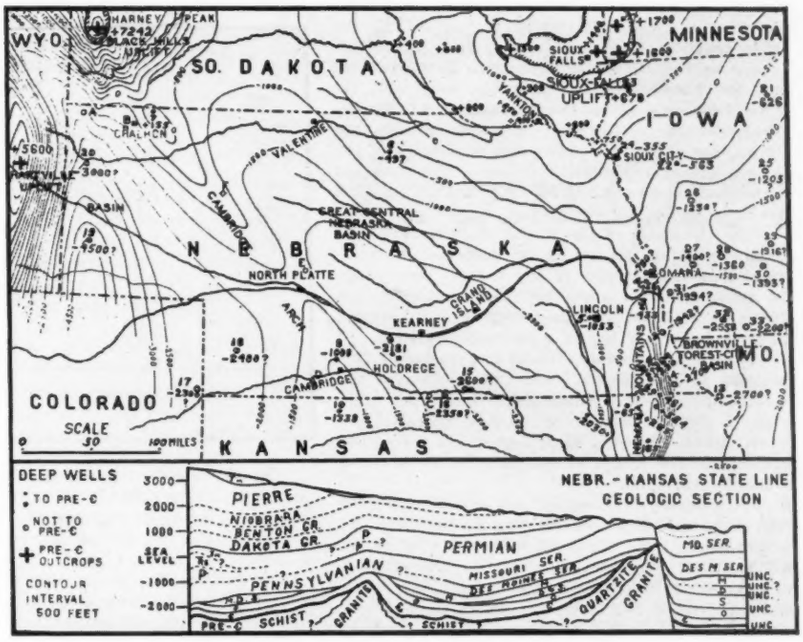
Nebraska's Chances for Finding Oil Improving

By KENT K. KIMBALL
Consulting Geologist, Tulsa and Lincoln, Nebr.

This is the last of a series of six articles on conditions in the Rocky Mountain region. The first was published in the November 5 issue of The Oil and Gas Journal and an article has appeared in each subsequent issue. Possibilities in Colorado, Wyoming, Montana and Utah have been discussed in this series written by L. G. E. Bignell after a month's trip through this area.



Contour map of the Pre-Cambrian surface of Nebraska

Wells Reaching Pre-Cambrian

No.	Name	County
1	Du Bois	Pawnee
2	Table Rock	Pawnee
3	Nehawka	Cass
4	Victor Jeep	Sarpy
5	Lincoln (Capitol Beach)	Lancaster
6	Bassett	Rock
7	Duthie	Dawes
8	Watkins	Frontier
9	Holdredge	Phelps
10	Norcatur	Decatur Co., Kans.

Wells Not Reaching Pre-Cambrian

No.	Name	County
11	Lane	Douglas
12	Nebraska City	Otoe
13	Forest City	Missouri
14	Salem (Morgan)	Richardson
15	Price	Webster
16	Ohio (Avery)	Franklin
17	Phillips	Yuma Co., Colo.
18	Imperial (Ingold)	Chase
19	Harrisburg	Banner
20	Agate	Sioux

LINCOLN, Neb. — At present there is no commercial oil or gas production in the state of Nebraska; although, a number of tests are now drilling. The state has been tested in various places but these tests were dry and rather discouraging, nevertheless, the oil companies are keeping their eyes on Nebraska for new development. With all the latest methods of geological exploratory work, the drill must tell the story.

In my opinion Nebraska is not condemned as an oil and gas producing state, nor is it proven.

The following paragraph, taken from the publication by the Nebraska Geological Survey, Bulletin 4, second series, known as "Deep Wells of Nebraska," by G. E. Condra, E. F. Schramm, A. L. Lugn, reads as follows regarding the "Reward for Discovery" of oil in Nebraska:

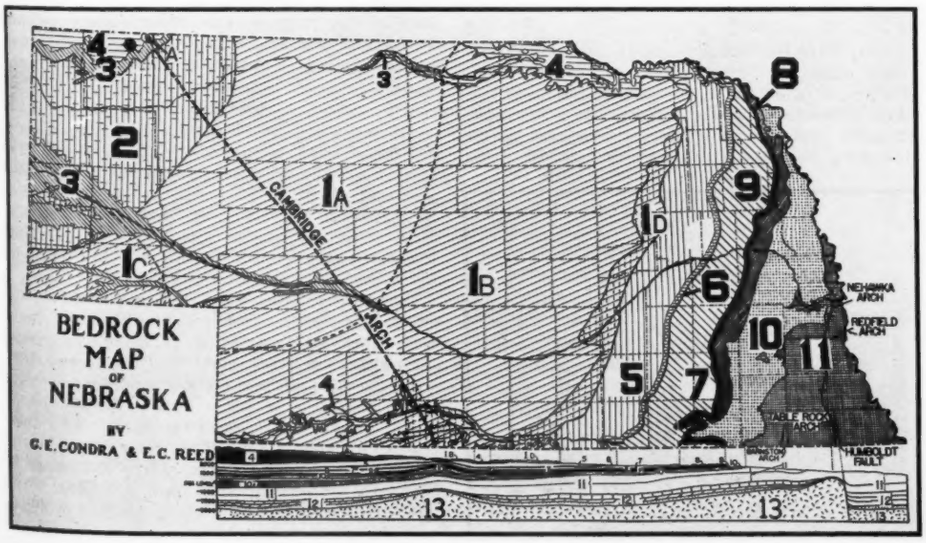
"Nebraska offers reward for the discovery of iron, coal, oil and gas within the state. The reward for oil and gas is $15,000 (each) for certain volumes to be determined by the committee to be selected by the governor. The reward for coal has been paid. There is a bill before the legislature to increase the bonus to be paid for the discovery and production of oil and gas in commercial quantities within the state."

At present there are four active tests in Nebraska. They are shown on the accompanying map designated as "A"—J. M. Huber Corp. and United Producers, Inc., and others No. 1 Morgan, C SW SW SW section 29-35n-56w, in Sioux County, drilling at 2,480 feet; "B"—Stephens Oil Corp. No. 1 Palmer, C NW SW section 1-32n-50w in Dawes County, reaming 10¾-inch to 1,740 feet; "C"—William Steinlee No. 1, SE NE SE section 25-1n-15w, in Franklin County, drilling at 402 feet; "D"—C. W. Kelly and others No. 1 Bauer, SE NW SE section 2-2n-29w, in Redwillow County, shut down at 1,450 feet. Two other recently completed tests were: "E"—Smith and Wright No. 1 Hansen, section 24-15n-30w, in Lincoln County, completed as a water well, and "F"—Byrd-Frost, Inc., and Magnolia Petroleum Co. No. 1, NE NE SW section 11-24n-38w, in Grant County, drilled into granite at 4,013 feet recently.

It is estimated more than 1,000,000 acres are now under from 5- to 10-year lease in Nebraska. Among the companies holding leases in the state are the Texas Co., Magnolia Petroleum Co., Gulf Oil Corp., Ohio Oil Co., Byrd-Frost, Inc., Panhandle Oil Co. of Nebraska, Midland-Platte Valley of Nebraska, Nebraska Oil Co., Indian Territory Illuminating Oil Co., United Products Co. of Chadron, and others. There are a number of scattered leases held by small companies and individuals.

The areas receiving the most attention are Redwillow, Hitchcock, Hayes, Frontier, Keith and Lincoln counties on the west side of the Cambridge Arch and Harlan and Franklin counties on the east side of the arch; Richardson County in the Forest City Basin; Grant, Hooker, Arthur and McPherson counties in the sand hill region; Sioux, Dawes and Box Butte counties in northwestern Nebraska, and less extensive areas in other sections of the state.

Recent report indicates that C. W. Kelley and others No. 1 Bauer in SE NW SE section 2-2n-29w, is suspended at about 1,450 feet and may or may not be deepened. This well has not reached the red beds but it is reported a showing of live oil was had in the Dakota group.



DESCRIPTION OF BEDROCK MAP

The writer has not done any detailed geological work in Nebraska for some time. So, the information presented herein is necessarily a compilation and digest of available material.

The principal subdivisions of the bedrock are numbered from the youngest to the oldest, representing as follows: the Ogalalla formations; 1-A, Ogalalla lying on Brule shale; 1-B, Ogalalla on Pierre shale; 1-C, Ogalalla on Brule clay and that on Laramie and Fox Hills shales and sands, which overlie the Pierre shale; 1-D, Ogalalla on Niobrara chalk; 2, Arikaree-Gering and associated beds, on the Brule clay; 3, the Brule-Chadron beds on the Pierre shale north and on the Laramie-Fox Hills south; 4, Pierre shale on the Niobrara; 5, Niobrara chalk, with the Fort Hays limestone (6) at its base on the Carlisle shale; 7, Carlisle shale on the Greenhorn limestone; 8, Greenhorn limestone

on Graneros shale; 9, Graneros shale on the Dakota group of sandstones and shales; 10, Dakota group on the Permo-Pennsylvanian beds east and on the Sundance-Morrison sands west; 10, the "red beds" on Permo-Pennsylvanian; 11, Permo-Pennsylvanian on division 12 which includes the limestones, dolomites, shales and sandstones of the Mississippian, Devonian, Silurian, Ordovician and Cambrian systems; 12, Ordovician on Pre-Cambrian rocks including granite (13).

The thickness of the stratified beds vary considerably being thinner on the anticline or structural highs and thicker in the basins. They range in thickness from about 600 feet on top of the Nemaha Arch in southeast Nebraska to around 9,000 feet more or less in western Nebraska.

To look for possible oil and gas producing formations it is suggested close examination of the stratigraphy of the sedimentary formations from the old granite surface up to and including the Pennsylvanian system. If geologists had solved the problem of the origin of oil and gas the problem would be clarified.

By studying thoroughly the accumulation of well logs and their correlations in the excellent publication, "Deep Wells of Nebraska," by G. E. Condra, E. P. Schramm and A. L. Lugn, previously mentioned, it has been found, nearly every deep well penetrated formations in which oil and gas could accumulate. No doubt many of these wells were drilled upon actually closed or supposedly closed structures. Just why some of these wells did not produce brings up a lot of questions.

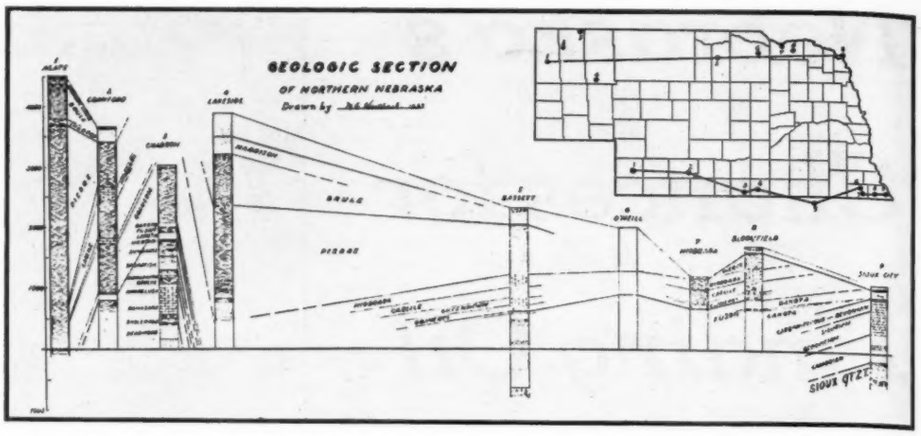
Possibly the wells were not actually located on real "closed structures." If some of them had been it would seem they should at least have had some good showings of oil or gas.

Even in the best producing territories of other states geologists have located structures which upon drilling have turned out to be dry or did not produce wells of commercial value. Some of these dry structures are very hard to explain. Either the real top of the structure has not been tested, the main producing formations removed by erosion during or immediately after the time of deposition or the structure was formed at a later date than the main oil and gas producing ones in the immediate territory. There are also many other reasons which are local problems.

One might take the point of view that the seas which deposited the sediments of Nebraska did not also deposit oil and gas forming material whatever it might be.

It is the personal opinion of the writer the subsurface structural conditions of Nebraska are not yet thoroughly understood by geologists. Only a few years ago western Kansas was condemned by a great many geologists. Yet today, western Kansas is getting a big play and many pools are being discovered. It was simply a matter of the geologists learning how to interpret the subsurface structures. Many expensive dry holes were drilled before these problems were solved. The study of good drill samples from those wells and the structural relation of the formations in those wells to other wells finally developed a subsurface picture for the geologists.

And, in western Kansas many good looking surface structures, which were drilled, turned out to be dry. Later drilling proved many of these surface structures did not carry on down into the deeper oil and gas producing formations, because of the unconformities between the Cretaceous, Permian and Pennsylvanian formations.



The writer believes somewhat the same type of problems, as mentioned above will have to be worked out in Nebraska. And to do so, many more dry holes will be drilled before the subsurface picture is developed.

The drilling of wells on top of good looking surface structures in Nebraska may not mean that the lower oil and gas producing formations were penetrated in the right place or on top of structure.

If some of the wells actually did penetrate subsurface highs or closed structures which could trap oil and gas and were dry, it is suggested wells being drilled lower down on the structure so as to penetrate more favorable sand conditions which are probably lensing out toward the top of the structures.

It is also suggested the geologists look for favorable structures in the major basins of Nebraska so as to find a thicker column of sediments and possibly more favorable oil and gas producing formations. It seems reasonable that the Oswald (Kansas City) limestone and the Siliceous (Arbuckle) limestone which are found productive in western Kansas should be found to be productive in parts of southern and southwestern Nebraska.

GENERAL STRUCTURAL CONDITIONS OF NEBRASKA

A map of Nebraska and parts of the surrounding states labeled "Contour Map of Pre-Cambrian Surface," by A. L. Lugn, is presented. Mr. Lugn in making this map used many of the wells which actually did reach granite and interpolated the granite depth in others so as to show by contours the structure of the old granite surface as it might look if the sedimentary formations were scraped off.

At the bottom of the map is shown a "Nebraska-Kansas state line geologic section," which gives a good picture of the attitude and thickness of the formations as found by a study of the various well logs.

The contour internal of the map is 500 feet which means that the dip up or down between these lines is 500 feet. The + or — sign before the figures at the wells indicate the granite surface is either above or below sea level.

The Hartville Uplift is shown in eastern Wyoming where the granite marked +5,600. Then the granite dips off to the east into a deep syncline or basin in western Nebraska. This basin probably connects up with and is a part of the Julesburg Basin of northeast Colorado. It seems to extend northwest into Wyoming and in between the Hartville Uplift and the Black Hills Uplift of southwestern South Dakota.

One of the most interesting features shown by the map is the northwest-southeast arch called the **"Cambridge Arch." A number of geologists believe** this arch will connect and is a part of the Barton Arch of western Kansas upon which a great many new oil pools have been found. This arch which seems to connect with the Black Hills Uplift may also extend on northwest and be related to the Baker-Glendive Arch of eastern Montana.

The "Great Central Nebraska Basin" takes in a great deal of Nebraska territory.

The Nemaha Mountain ridge or Nemaha granite ridge is in southeastern Nebraska. This same granite ridge extends through Kansas and into Oklahoma. It also may extend on north and connect up with the Sioux Falls Uplift.

Dipping off to the east 3,000 feet more or less is a deep basin called the Brownsville-Forest City Basin.

To better bring out the subsurface structure and stratigraphy of the sedimentary formations of Nebraska cross sections across southern and northern part of the state are shown.

A well recently completed, the Byrd-Frost, Inc. No. 1 Abbott Land & Cattle Co. in section 11-24n-38w, in Grant County, found granite wash at 4,013 feet. Correlation of the log of this well by E. C. Reed of the Nebraska State Geological Survey is as follows:

	Feet
Ogalalla group	0- 420
Arikaree sandstone	420-1,210
Gering formation	1,210-1,270
Brule clay	1,270-1,750
Chadron formation	1,750-1,950
Dakota sandstone	1,950-2,230
Fuson shale	2,230-2,290
Lakota sandstone	2,290-2,640
Sundance-Morrison formations	2,640-2,835
Spearfish formation	2,835-3,180
Hartville (Minnelusa) formations	3,180-4,013
Granite wash and disintegrated granite	4,013-4,036
Granite—total depth	4,036-4,040

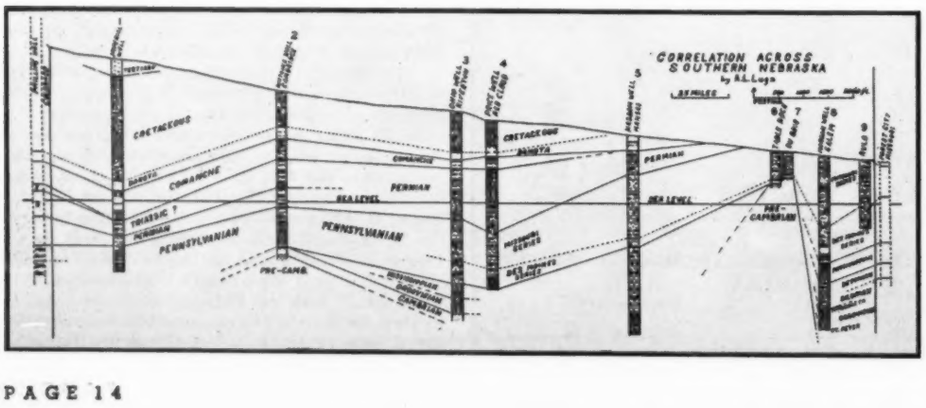
This well is located about 5 miles northeast of Hyannis, Neb., and seems to be well located upon the Cambridge Arch and helps establish the existence of this granite ridge. The elevation of this well is not available which may necessitate changing the contouring of the Pre-Cambrian map in this locality.

CONCLUSION

In conclusion it is doubtful if many wells in Nebraska have actually been drilled upon subsurface closed structures, and if they were probably did not go deep enough or were improperly located upon the structure. Intense surface mapping, subsurface studies of well samples, core drilling and geophysical prospecting will no doubt work out some real structures.

If actually closed structures are found to be dry on the Cambridge Arch and the Nemaha granite ridge then the suggestion is made for further prospecting off these highs into the basins either with the idea of penetrating sand lenses at the proper places or testing structures in these basins.

Dr. G. E. Condra, head of the Nebraska State Geological Survey and Prof. E. F. Schramm of the department of geology of the University of Nebraska at Lincoln, Neb., have a wealth of valuable information on Nebraska geology which is available to those interested.



Five Tribes' Income Averages $3,000,000 Yearly From Oil

By DAL DALRYMPLE

With meager publicity, a major oil business, involving annual payments averaging more than $3,000,000, is conducted at the agency of the Five Civilized Tribes in Muskogee, Okla.

Many articles have been written about the Osage Indians, once termed the richest people, per capita, in the world. But, with the exception of exaggerated stories about Jackson Barnett, Eastman Richards and other individual members of the Five Tribes, little has been said of the riches accruing to Cherokees, Chickasaws, Choctaws, Creeks and Seminoles from their Oklahoma oil lands.

Yet, since the Cherokees received their first money from oil in the early days of the Chelsea-Nowata field, approximately $100,000,000 has been paid by the petroleum industry to restricted members of the Five Tribes!

There is this difference between Osage and Five Civilized Tribe oil revenues: That received from Osage lands goes into the tribal fund, apportioned equally among owners of headrights: that received from lands of the Five Tribes goes to the individual landowners, with the result that in some few instances there are exceedingly wealthy Indians, while others, having no oil lands, receive none of the payments.

The first lease sale was held at the agency in Muskogee in February, 1927; the latest on December 10, 1936, making a total of 99 sales held in 10 years.

At that first sale only 21 leases, covering 1,553 acres, were sold for a total bonus of $8,178.36. At the sale last week, 77 leases covering 6,646 acres brought a total bonus of $15,763.57. The sales in between soared to high marks in the halycon days of 1929-30; declined abruptly when the depression gripped the nation in 1931; rose slowly during recovery years to another high record in 1935, and declined somewhat this year.

The 1936 decline is small, however. It came in the latter part of the year and is directly due to poor showings made by key wells being drilled on or near Indian lands. Actually, the total bonus paid in the fiscal year ending June 30, 1936, was the highest since the sale of leases began in 1927, with the exception of 1929-30.

DEMAND VARIES

Demand for Indian oil lands is governed largely by field operations, plus general business conditions. Favorable showings of oil or gas in key wildcat wells make nearby Indian lands attractive. Such wells as the Amerada test in section 27-6s-2e and Sinclair Prairie well in section 26-6s-2w, in Love County, are examples of wells which have contributed substantially to activity in leasing restricted lands. When the two Love County wells began looking favorable, oil men began clamoring for nearby Indian lands, and sales brought large bonuses. Conversely, when a key wildcat fails, interest in adjacent Indian lands lags.

Deeper drilling on the flanks of known geological structures in old oil fields also has been the cause of pronounced interest in leases covering restricted tracts in the vicinity of the pools. Carter Oil Co.'s deep well in the Fox field, Carter County, caused a boom in Indian lands in the general vicinity, and some of the highest bonuses in the history of the Five Tribes' sales were made.

Increased or decreased interest in leasing lands in certain localities is precipitated in the most unexpected manner at times, and there is no dependable set of circumstances or events which account for the uncertain course of leasing activity. Accordingly, Five Tribes sales are held only when the demand justifies.

Officials of the Five Civilized Tribes are assembled for the December, 1936, lease sale at Muskogee. Left to right: Miss Sara Hewitt and Mrs. G. L. Denton, clerks; Earl G. Woodruff, assistant chief of the land division; A. M. Landman, superintendent of the Five Tribes agency; O. U. Bradley, oil and gas inspector; John T. Wilkinson, chief of the Indian land and money division and official auctioneer

Since 1931 a minimum of 25 regular, bona fide applications of oil men agreeing to attend and submit bids has been required before sales were announced. Monthly sales are omitted when less than the required number of requests for leases have been received.

Thus in 1929 and 1930, sales were held every month, as Indian lands then were in great demand. In 1931 demand dropped to the lowest point and only four monthly auctions were held. During the current year 10 sales were held.

The largest sale ever held was that of April, 1930, when oil men paid bonuses totaling $119,943.75 for 7,669.41 acres in 112 tracts. This was an average of $15.64 an acre.

The sale of December, 1935, was the second largest. Bonuses totaled $114,925.50, at $6.58 an acre for 17,454.31 acres in 201 tracts.

The agency also receives requests from many restricted Indians, asking that their allotments be included in lease sales. The officials give close attention to every request, check up development work, interest in leasing in the area, possibility of getting a bid and other details, with the view of offering as many leases as possible. If agency officials have information that some company is interested in picking up leases in any locality, they communicate with it regarding restricted tracts and if the company is interested the land is included in the next sale. When companies or individuals are assembling big blocks, agency officials check up the restricted acreage and, even though it is outside the block, it is included in sales held at the time. It is the endeavor of the agency to maintain as reasonable balance as possible between cases wherein bids are assured and tracts which are put up on general prospects.

The speculative interest in oil prospects of any area, bringing about investment in leasing, is of much greater benefit to restricted Indians than any return realized from development of the lands. This is because of the greater number of Indians benefited. Indicative of the value of leasing are the following statistics:

Number of leases sold from Jan. 1, 1934, when new lease forms went into effect, to June 30, 1936, 1,915.

Total acreage leased, 163,708.

Advance rental and royalty, at $1.25 per acre per year, $204,635.

Total bonus for period, $945,195.29.

Total income from leasing for period, $1,149,730.29.

Percentage of actual royalty on production to income from leasing, on new form leases, .67 per cent.

It is to be expected a gradual increase in this percentage will occur as development work is carried on. The immediate benefits of leasing and the large number of Indians deriving even a small yearly income are items of importance, from the Five Tribes viewpoint.

RIVALRY IS AID

Rivalry of oil companies to be represented in every area has a material bearing on extending holdings of restricted leases. Any requirement concerning development work within any specified period has a decided tendency to curtail leasing, rather than increase drilling operations on allotments for the simple reason there is an ample supply of commercial acreage available with no drilling requirements. Accordingly, such requirements are not stressed on Indian lands, for officials hold that a large spread of leased land and distribution of income from such leasing is of

Table 1

	Leases sold	Acreage leased	Bonuses paid
1927	497	5,298,029	$149,535.98
1928	855	7,128,401	235,371.18
1929	1,194	9,539,789	619,037.64
1930	937	6,909,202	640,862.30
1931	222	1,895,813	28,529.32
1932	284	2,122,893	39,293.33
1933	254	2,008,282	56,807.38
1934	397	3,529,121	237,819.36
1935	1,081	9,426,046	389,077.04
1936	830	6,941,450	301,172.79
Total	6,551	54,799,026	$2,697,506.32

more importance than actual production from specified allotments.

The accompanying table shows the annual results of lease sales since the first one in 1927.

Before auction sales were instituted at the Muskogee agency, Indian lands were leased by private transactions, agency officials representing the Indians.

The first lease taken on lands of the Five Tribes, according to the records at Muskogee, was obtained by Delokee Gas & Oil Co., of Bartlesville, Okla., and Arkansas City, Kan. It was dated June 23, 1903, and was on NE NW section 1-24-12, Washington County. Joseph Dick, a Cherokee, was the allottee. All of the early leases were in the Cherokee Nation, for it was there that oil development started in Oklahoma.

The first lease in the Creek Nation was dated March 16, 1904, and was on S half SW section 34-10-16, McIntosh County. It was taken by Albert P. McBride and C. L. Brown, of Independence, Kans. Alice Grayson was the allottee.

Leasing of Chickasaw, Choctaw and Seminole lands did not begin until some years later.

The last lease filed at the agency prior to the December sale of this year was numbered 58,049. Of that number, some were disapproved, some canceled and some re-leased, some tracts being leased several times during the 33-year period since No. 1 lease was filed.

LEASES FOR 10 YEARS

The first leases were for 15 years, effective immediately. Present leases are effective on date of approval and are for 10 years, or as long thereafter as oil and gas is found in commercial quantities. Rentals are paid in advance.

It is estimated 95 per cent of the leases sold would represent the number of Indian allottees benefited.

During the fiscal year ending June 30, 1936, a total of 1,144 leases were filed, of which 1,125 were approved. Acreage leased amounted to 100,442.25 acres. On June 30, 1935, a total of 271,229.27 acres were under lease, making a total of 371,671.52 acres under lease the middle of this year.

Leases in force at the end of 1935	3,625
Approved this year to date	1,125
Total	4,750
Cancellations	271
In force at the present time	4,479

These figures do not include leases sold last week, as they have not yet been approved.

Another table compiled from agency records three years ago further shows the importance of leasing to the Five Tribes, as follows:

Total bonus paid on leased lands, 1904 to June 30, 1933	$8,996,380.86
Total advance royalty and rental, same period	14,623,141.47
Total amount of royalties on production	71,738,475.34

A more recent tabulation places the total amount received by the Indians from leased lands since 1904 at $98,581,415.41, and today it is believed that amount has reached or passed the $100,000,000 mark.

RESTRICTED LANDS ONLY

That total, of course, represents incomes from lands of restricted Indians only. The nonrestricted Indians conduct their own deals, and their revenues are not shown on agency records.

The number of producing oil wells on lands of restricted Indians at the last tabulation was 3,710; number of gas wells, 162.

Gross barrels of oil produced on these lands in 1936 to date totaled 10,674,910.46; royalty oil produced, 1,334,363.81 bbls.

Total number of barrels produced in restricted lands since the first discovery, 390,449,326.38.

Total amount of receipts from restricted lands in 1904, $1,300,000.

Total amount in the peak year, ending June 30, 1930, $6,034,267.18.

Total amount, year ending June 30, 1936, $2,305,552.62.

The Five Tribes lands are located in 40 eastern and southern Oklahoma counties, but some counties have no oil lands.

The agency conducts affairs of the restricted Indians under the general supervision of A. M. Landman, superintendent. A special division has been set up to handle the varied oil interests of the restricted Indians.

John T. Wilkinson is chief of the Indian land and money division and conducts the auction sales. He entered the Indian service at Muskogee in 1906, and has been with the agency at Muskogee since with the exception of a period from 1927 to 1931, when he was connected with a Tulsa bank. He has conducted the sales since 1933.

Earl G. Woodruff is assistant chief of the land division, in charge of details of sales. He has been in the lease department since 1907, and is the only one with that continuous period of service in oil work. He prepares tracts for sale, checks land descriptions and does other preparatory work.

O. U. Bradley, another veteran of the department, is the oil and gas inspector for the Five Tribes. He keeps up with all oil activities, exploration and development work, assembles information relative to prospective leasing, and checks Indian lands through land, lease and restriction departments to determine if they are available for inclusion in lease sales. He joined the department in March, 1913.

PROMOTED BY EMPIRE

A. F. MORRIS
who becomes chief geologist, January 1

Strike in Maracaibo

A strike of oil workers is reported by Dow Jones Co. to be in effect throughout the Maracaibo, Venezuela, district, and all drilling and shipping suspended, although essential departments continue to operate. The government has ordered soldiers to protect property in the fields.

The strikers demand $2.56 minimum wage daily; full pay for Sundays and holidays and double pay on those days if they were working; discharge of all employes, native or foreign, considered prejudicial to the workers' interests, and immediate payment of time lost by workers discharged in previous strikes. Marine workers presented separate demands.

Oklahoma Raises Allowable

Oklahoma followed Texas, Louisiana and Kansas in raising its allowable oil production above the recommended figure of the Bureau of Mines for December. On the recommendation of W. J. Armstrong, chief conservation officer, Oklahoma Corporation Commission placed the allowable at 595,350 bbls. per day, or 5 per cent over the Bureau of Mines figure of 567,000 bbls. per day, and 36,952 bbls. per day above the November allowable.

The Oklahoma City Wilcox sand zone was given an allowable of 127,531 bbls. as against 117,084 bbls. in November. The Fitts field was advanced from 63,640 bbls. to 70,512 bbls. The increase in all prorated fields over the November allowable was 31,597 bbls. per day and in nonprorated fields 5,353 bbls. per day.

At the hearing, December 11, J. Steve Anderson of Anderson-Prichard Oil Corp., suggested that hereafter the Bureau of Mines recommendations be adopted.

Before the hearing W. J. Armstrong, chief conservation officer, notified operators a hearing on market demand in January would be held on December 29.

Further Pipe Line Hearing

WASHINGTON, D. C.—The recommended 35 per cent reduction in oil pipe line charges will be indefinitely postponed as the result of the Interstate Commerce Commission's order issued December 10 reopening the rate case for further testimony. In reopening the case the commission ordered companies to submit data through 1934, 1935 and the first nine months of this year.

New Gushers in Crescent

Two new gusher wells were near completion in the Crescent pool, Logan County, Oklahoma. Carter Oil Co. and Gulf Petroleum Corp. No. 3 Miller, SE NW SE section 28-17-4w, flowed 310 bbls. of oil in 10 minutes and bridged, delaying further testing. Total depth is 6,305 feet in Wilcox sand. Continental Oil Co. No. 5 McConnell, SE SW SE section 28-17-4w, flowed 316 bbls. of oil in 10 minutes from 5,990 to 6,070 feet, total depth, in Wilcox sand and sanded up connections. Both wells are on the west side. Because of water encroachment in older Crescent wells, it was not expected newer wells would be drilled as deeply into the soft sand as heretofore.

State Oil Compact Approved

The Oklahoma legislature is the first to approve of the continuance of the State Oil Compact for two more years. On December 6 the senate by unanimous vote took favorable action and was followed by the house of representatives on December 9 by a vote of 102 to 2.

Humble Wage Increase

Humble Oil & Refining Co. and Humble Pipe Line Co. have proposed wage and salary increases of 5 per cent for all employes whose annual compensation is now less than $5,000, effective December 1, 1936.

To Prolong Connally Law

WASHINGTON, D. C., Dec. 15.—The department of interior will at least ask for the extension of the Connally "hot" oil act in the coming session of congress, Secretary Ickes said today in a press interview. He indicated no decision had been made up to this time as to whether additional oil legislation will be sought.

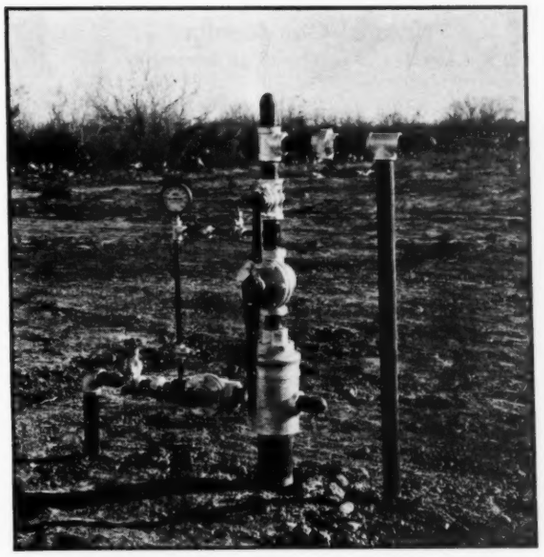
Texas School Land Leases

AUSTIN, Tex.—The State Board of Education and senate educational research committee have agreed on a bill to revise the method of selling oil and gas leases on school lands to be presented to the legislature.

Under the proposed bill, a board would be created to handle oil and gas leases on school lands, composed of three members, the land commissioner and two members of the education board selected by the governor. At present the land commissioner has exclusive control of oil and gas leases on school lands and the education board has felt a better income could be had if the administration was patterned after the policy of the regents of the University of Texas. The senate was not prepared to divest the land commissioner of all power and the compromise retains the land commissioner but gives the board a majority.

Efficient Production Practices Mark Developing of Lopez Field

By NEIL WILLIAMS



Typical well hook-up in Lopez district

HOUSTON, Tex., Dec. 14.—Of the numerous fields in the Mirando-Duval district of Southwest Texas none has afforded more favorable operating conditions than Lopez, on the Webb-Duval county line, which has an unusually thick and uniform sand section for that district, with consistent reservoir pressures capable of effecting a high recovery. An orderly drilling program has been carried out, with efficient production practices.

Lopez is a little less than a year and a half old. On November 18 there were 243 producing wells. In wells and production, Lopez is fourth in the district, exceeded by Government Wells, Loma Novia and Seven Sisters.

Production is found at 2,200 feet. There was no competitive play, and a minimum number of rigs running. However, it being possible to drill to the sand and cement casing in two to three days, complete wells into the tanks in four to five days, and with light equipment readily moved from location to location, single rigs have been able to add new wells rapidly.

Structurally, the field is similar to Government Wells, Loma Novia, Seven Sisters and other fields along the old Jackson shoreline trend extending across Webb, Duval and McMullen counties. Sands which dip off toward the east, pinch out up dip against shale beds which form their closure on the west. The producing horizon at Lopez is the Mirando sand, ranging from a few feet on the west edge, where it pinches out, to 25 to 30 feet on the east where it goes into the water. This is the thickest sand section in any field along that trend, and the cleanest and most free of shale.

The drilling program at Lopez within the present proved limits is nearing completion. Superior Oil Co. on the south end is entirely drilled up and has its rig stacked. Mills Bennett Production Co. has eight wells, and possibly a few others, to drill. Mortimer & Springer will about equal Mills Bennett Production Co. when their program is completed. On the north end Cox & Hamon and Magnolia Petroleum Co. have not defined the producing area. Late drilling has indicated a flattening out and widening of the sand. It is possible a block of Humble Oil & Refining Co., northeastward, will be brought into the picture. As it stands, the field is approximately 36,000 feet long in a southwesterly-northeasterly direction with an average of eight locations. The field has been drilled on a uniform 10-acre spacing basis, making the average width about a mile.

FORMATION SOFT

Formations are so soft holes virtually have been washed down. In most wells it has been possible to drill from the surface pipe to the sand without coming out. Six wells were drilled by one rig and completed into the tanks from October 1 to October 26, an average of one well every four and one-third days. Total footage was 13,460 feet.

Drilling practices have called for setting of only one joint of conductor pipe, usually 10-inch, for surface protection. With the exception of Mills Bennett Production Co., all companies have run 7-inch pipe for the flow string. That company has made a practice of drilling 7⅝-inch hole and using 5-inch (O.D.) casing. So uniform have the formations run within the proved area it might have been possible, knowing the gas-oil contact and the water level, to drill into the sand and complete the wells without any coring. However, in all the wells the sand has been cored from top to bottom.

After coring the sand, the procedure of Mills Bennett Production Co. has been to ream the holes to the full 7⅝-inch size to bottom, to permit running casing to bottom. It is then pulled up to the desired level for cementing. Operators have thus been able to effect greater accuracy in setting the casing at the proper point in the sand.

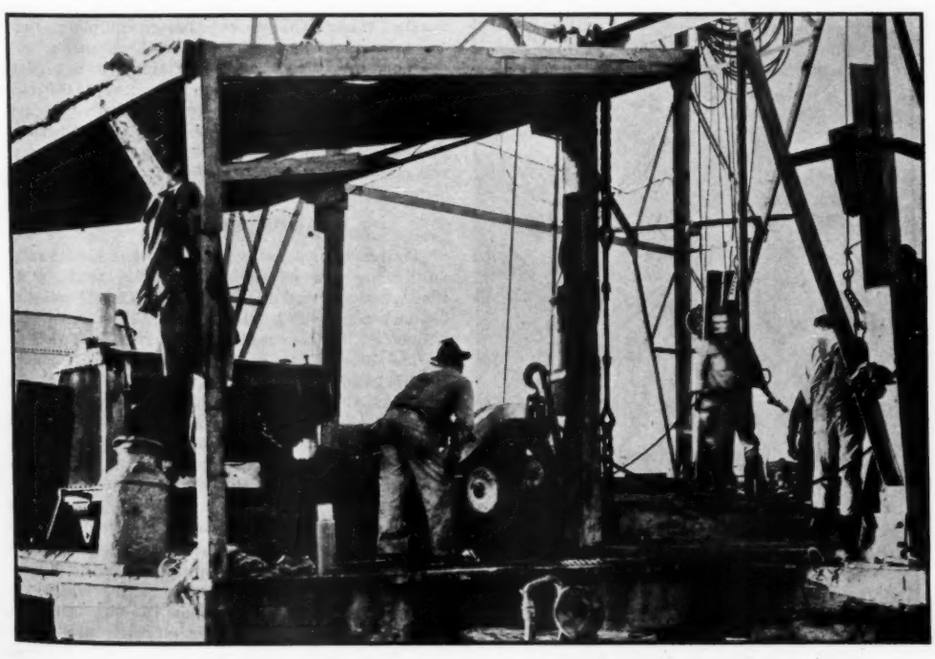
Thirteen-pound pipe usually has been run for the flow string. In cementing, 100 sacks has been customary although this has been regarded as in excess of what was needed; 30 to 36 hours has been considered ample setting time.

Along the western edge where the sand pinches out up dip against the closure, free gas is carried in the top of the sand. There, operators have had to concern themselves with setting casing below the gas-oil contact, this being at a subsea depth of 1,555 feet. Wells set above that level either make all gas or have high gas-oil ratios, depending on the gas sand cased off. Where thickness of the sand permits the practice has been to set the casing entirely through the gas cap and into the saturated zone. When occasion arises to produce from the gas zone the casing can be perforated.

The discovery well, drilled by Mills Bennett Production Co., and a few of the earlier wells on the western side, were completed as high gas-oil ratio wells. Initial production of the discovery was 10,000,000 feet of gas with about 60 bbls. of oil daily through a five-sixteenths inch choke. Since then, with determination of the gas-oil contact and with other data, wells even further west have been brought in with low gas-oil ratios. Completion of the discovery well was by the weep-hole method. A 4-foot 1-inch nipple with one-eighth inch perforations and with back-pressure valve on bottom was run in on the string of 5-inch (O.D.) casing. Sand was found at 2,126-44 feet, the perforated nipple being at 2,139-43 feet.

Eastward and down dip the sand is encountered below the gas-oil contact. There, the entire sand section to the water level is saturated. Wells completed in the sand at such a structural position as well as those completed on the west side below the gas-oil contact have gas-oil ratios of less than 500 feet per barrel and as little as 200 feet per barrel. In such wells, the ratios remain fairly constant even with varying rates of fluid with-

(Continued on Page 20)



Gasoline engine-driven rig in Lopez Field

Natural Gas News

Natural Gas Meeting

The American Gas Association natural gas department's spring meeting will be held in Kansas City, Mo., during the week of May 10, 1937.

This meeting will be of unusual interest to the natural gas industry as the manufacturers and supply men have decided to hold an official exhibit in the new Civic Auditorium. From the preliminary interest shown, this will be the largest and most instructive display of the latest developments by the manufacturers, supply men and appliance manufacturers.

The program committee is already at work on a program of live and interesting topics for discussion and shortly after the first of the year a tentative program of proposed subjects and events will be issued.

Production Increases in Texas

Dry gas production in Texas districts, outside of the Panhandle, continued to increase with the advent of colder weather during October, according to the report of the Railroad Commission of Texas for that month. September production showed an increase over August and October over September. In the Panhandle, dry gas production which had shown a decrease in August increased in September, with a greater increase in October over September, indicating that production is based on demand and that waste is decreasing.

The October figures for both volume and percentage of dry gas produced showed an increase in gas used for light and fuel, while the percentage figure for gas stripped and resold showed a decrease. The disposition of casinghead gas throughout the state showed an increase for useful purposes and a decrease of the amount vented to the air; further indicating that waste is decreasing.

One interesting point noted was that the volume of gas vented to the air in the Panhandle district was lower than it had ever been in the history of the field. During the month 1,155,665,000 feet of gas were withdrawn. Of this amount 708,794,000 feet were disposed of for light and fuel; 2,135,000 feet used to repressure; 3,127,000 feet used as gas lift; and 441,609,000 feet were stripped and the residue sold.

There was also an increase in both natural gasoline and carbon-black manufacture during October, the report states. Natural gasoline plants processed a total of 1,815,642,000 feet during the month, producing 1,876,782 gallons of naturals or an average of 1.03 gallons per 1,000 feet of gas. Carbon black companies processed a total of 699,054,000 feet during the month to produce a total of 966,422 pounds of carbon or an average of 1.7 pounds of carbon per 1,000 feet of gas processed.

New York and Pennsylvania Gas

COUDERSPORT, Pa., Dec. 12.—One well was completed in the New York-Pennsylvania gas field in the week ended December 11. The Penn United well on the J. E. Tremain farm, Lawrence Township, Tioga County, was completed at 3,690 feet. It was dry and has been abandoned. Top of the sand was 3,605 feet.

Belmont Quadrangle Drilling Corp. has the rig up on L. Washburn farm, Catherine Township, Schuyler County, New York.

In Potter County, Pa., 6 operations are under way. French and others were drilling at 4,550 feet on the U. B. Russell farm, Genesee Township. Potter Development Co. is drilling by tools lost at 5,193 feet on the Crawford Estate property in Keating Township. Sylvania Corp. is driving pipe on the I. Kibbee farm, Harrison Township, drilled to 4,910 feet. Ward Wasson Co. is drilling at 340 feet on the W. B. Hall farm, Genesee Township, and New York State Natural Gas Co. at 920 feet on the John Saxton farm, Harrison Township. Potter Development Co. is building rig on the L. C. English farm, in Harrison Township.

Three wells are drilling in Warren County. Potter Development Co. is drilling by tools on the D. Spetz farm, Pittsfield Township, which missed the Oriskany and is in the Red Medina. Sylvania Corp. is drilling at 1,460 feet on the M. W. Jamieson farm, Kinzua Township, and Potter Development Co. is running 9 5/8 inch casing on the Lessor & Louner farm, drilled to 640 feet.

New York State Natural Gas Co. is drilling at 1,750 feet on the Otto Burnside No. 2 farm in Clymer Township, Tioga County. McKenry and others are down 565 feet on the Stellman farm in Rockland Township, Venango County, the first in this county scheduled for the Oriskany and approximately 30 miles from the nearest Oriskany test.

G. L. Cabot, Inc., is shut down at 4,929 feet on the Patricia O'Donnell farm, Willing Township, Allegany County, N. Y.

Ark-La Gas Managers

SHREVEPORT, La.—Local managers of the Arkansas-Louisiana Gas Co., with 10 managers from the Southern division, gathered at the Washington-Youree hotel for the first of a series of district meetings for discussion of budgets, operations and construction.

W. M. Little, head of the gas distribution department, presided. Local managers attending were N. J. Kroencke, Texarkana; W. L. Fridge, Atlanta, Texas; O. T. Williamson, Vivian, La.; O. B. Krill, Bernice, La.; Linwood Collins, Greenwood, La.; B. F. Keith, Plain Dealing, La.; O. L. Moore, Gilmer, Texas; M. Chipman, Jefferson, Texas; W. H. Steffey, Pittsburgh, Texas; A. B. Lawrence, Mount Pleasant, Texas.

Those from the Shreveport office attending were: Bert Smith, Carroll Diller, M. J. Jackson, J. C. Brickey, F. D. Krumpelm, W. A. Adams, Roscoe Campbell, Mrs. T. W. Robertson, Jr., Mrs. Edward Moore, Tom Robertson, Jr., E. C. Palmer and Bob Wiseman from the Texarkana office and Ed Tapley from Vivian.

Gas Revenues Gain

An increase of 6.3 per cent in revenues of manufactured and natural gas utilities in the United States for the first nine months of 1936 to $573,599,900 from $539,638,500 is reported by the American Gas Association.

Revenues of the industry in September were $53,092,100, an increase of 1.6 per cent over the $52,259,700 for the 1935 period. An increase of 2.3 per cent customers was reported as of September 30, 1936, to 16,276,700 from 15,903,300 on the corresponding 1935 date.

Pipe Line Activity

Wewoka-Fitts Line

Work is progressing on the 22-mile pipe line contract awarded by Cosden Pipe Line Co. to Sheehan Pipe Line Construction Co., Tulsa. This 4-inch lindewelded line will run from Wewoka south to the Fitts pool, Fittstown, Okla.

Stanolind Construction

The Stanolind Pipe Line Co. has authorized the laying of two loops of its pipe lines, one in Kansas and the other in Oklahoma to increase the capacity of the system. To complete the second of two 8-inch loops between Fitts pool and Pauls Valley, Okla., about 9 miles of line is to be laid. In Kansas Truman-Smith Construction Co. has been awarded the contract to lay 14 miles of 12-inch loop between Centerville, Kans., and Freeman, Mo., on the main line system of Stanolind Pipe Line Co. This is completing work started some time ago and when finished will add to the capacity of this section of the system.

Laying pipe lines to Aquila refinery, Trieste, Italy

Magnolia 85-Mile Line

SAN ANTONIO, Tex.—Magnolia Pipe Line Co. to eliminate the present crude congestion on its line from Mirando area to Luling and then on to Beaumont, will start immediately the construction of a 85-mile line from Tilden station to port at Corpus Christi. The line will be 8-inch welded and will take about a month and a half to complete. Two 80,000-bbl. tanks will be erected at Tilden station, though the present booster equipment there is expected to be sufficient for the present.

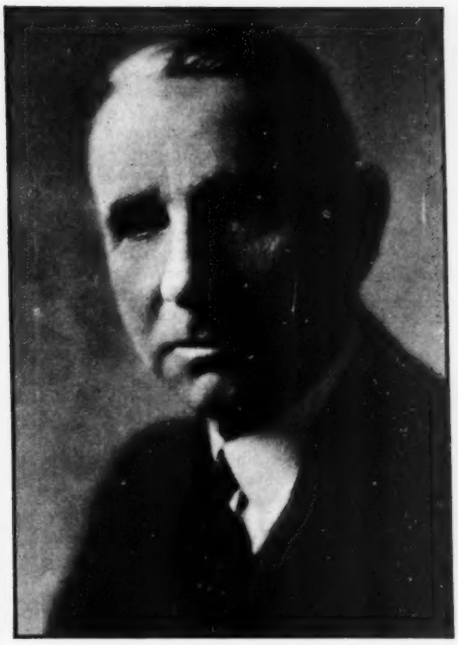
This line from Mirando fields handles about 16,000 bbls. daily to Luling and some 22,000 bbls. or more from that station to Beaumont, with surplus put into storage. The company will either construct a private loading terminal at the port or use one of the existing terminals on a rental basis.

Mississippi Gas Line

Contract for a natural gas line has been awarded by the city of Vicksburg, Miss., to B. & M. Construction Co., Oklahoma City. The 44 miles of 6⅝-inch pipe will be lindewelded. Terminal points will be at Jackson and Vicksburg, Miss.

The Mississippi State Mineral Lease Commission December 11 declined a petition of the city of Vicksburg for an oil and gas lease on state-owned lands in the proven Jackson gas field upon which the city could develop its own gas supply. The city asked for a 640-acre lease in the proven area, or a guarantee the state would supply the city with sufficient gas to meet its needs during the remaining life of the Jackson field.

After hearing a delegation from Vicksburg, the commission announced it would make no alterations from its present contract under which the state had agreed to either lease the city 320 acres in the gas field, or sell the city the production they need from state-owned and operated gas wells.



PARTICIPANTS IN TALCO PURCHASE AND MOUNT PLEASANT REFINERY CONSTRUCTION: *D. Harold Byrd and Jack Frost of Byrd-Frost, Inc., and Capt. J. F. Lucey, president of Lucey Petroleum Co. and Talco Pipe Line Co.*

Refinery Expansion

To Erect Talco Refinery

DALLAS, Tex.—Byrd-Frost, Inc., of Dallas, headed by D. Harold Byrd and Jack Frost, has purchased a large acreage in the Talco field from Gulf Oil Corp., making them the second largest lease holders and second largest producers in the field, Humble leading. In conjunction with Lucey Petroleum Co. they will construct a 5,000-bbl. refinery at Mount Pleasant.

Byrd-Frost, Inc., has seven producers in Talco and 858 acres, much of it proven and semiproven The acreage acquired from Gulf Oil Corp. includes 400 proven acres, 500 semiproven and 1,720 additional acres, a total of 2,620 acres. Seventy-five thousand dollars was paid in cash, with $1,000 per acre to be paid out of oil from each productive lease, the oil payment running around $2,620,000 in addition to the cash payment. Gulf retained the mineral rights on the leases below the Paluxy sand.

Capt. J. F. Lucey, president of Lucey Petroleum Corp. and Talco Pipe Line Co., and Ralph E. Fair, also of that company, hold a half interest in the acreage as well as in a gathering system in the field, and a 20-mile outlet connecting the field with a loading rack at Mount Pleasant.

Byrd-Frost, Inc., and Lucey Petroleum Corp. have let contract to Frick-Reid Supply Co. for erection of a 5,000-bbl. refinery on the Cotton Belt Railroad at Mount Pleasant. Contract was also let to Universal Oil Products Co. to construct a modern Dubbs cracking unit. The refinery is to cost in the neighborhood of $550,000, construction to start in the near future, and to be operating around the first of May. It is understood 68 octane gasoline is to be sold to wholesale purchasers, and there is a demand for the asphalt to be turned out from the asphalt base, low gravity oil in the field. The Cotton Belt Railroad has made a 3-year contract with the operators for fuel oil. The plant will not be competitive with other companies marketing in the area, according to its owners.

The group has two 55,000-bbl. tanks in the field with a loading rack on the Paris and Mount Pleasant Railroad, from which oil is being shipped at present. It is purchasing around 3,000 bbls. of crude per day in addition to running production from its 7 wells. Former plans called for erection of a plant to be known as the Premier Asphalt Co., but those plans were discarded.

A 50-car loading rack is to be erected on the Cotton Belt, at the refinery site, Mosher Steel Co. of Dallas having contract to erect this rack, which will be connected with the Talco Pipe Line Co.'s 20-mile line from the field.

With the leases now held by the company 133 locations are expected to be drilled, which at an average of around $22,500 per well may run to nearly $3,000,000. Investments in tanks, gathering system, pipe lines, producing wells and those to be drilled are estimated to total around $4,000,000.

D. Harold Byrd and Jack Frost have been associated since the East Texas field was discovered, leasing between 10,000 and 15,000 acres, later selling a half interest in their holdings to Gulf Oil Corp. and a quarter interest to Humble Oil and Refining Co., afterwards disposing of another interest in some leases to Atlantic Refining Co.

D. Harold Byrd got his start in oil in 1917 in the Burkburnett field in Wichita County, migrating to East Texas when he took a position with Colonel Humphreys who discovered the Mexia field on the Balcones Fault line in Limestone County. He is a graduate in geology from the University of Texas.

Jack Frost is a graduate geologist from Southern Methodist university at Dallas.

Atlantic Refinery to Close

PHILADELPHIA, Pa.—Atlantic Refining Co. has announced that its Franklin, Pa., refinery will soon close. The plant, known as the Eclipse plant, has a daily capacity of approximately 9,000 bbls. and employs 250 persons.

Natural Gasoline

October Production Higher

Production of natural gasoline continued its upward trend in October, according to a report prepared by the Bureau of Mines, the daily average output being 5,189,000 gallons compared with an average of 5,018,000 gallons in September. Total production for 1936 is running about 9 per cent over that of last year, the bureau reports.

All leading districts showed an increase in production over September except East Texas, which declined after establishing a record in that month. Production in the Panhandle increased from 17,285,000 to 18,738,000 gallons, Oklahoma City from 10,814,000 to 12,311,000 gallons and Kettleman Hills from 15,519,000 to 16,208,000 gallons.

Total production of the various districts during October, in gallons, was as follows: Applachian, 5,972,000; Illinois, Michigan and Kentucky, 1,062,000; Oklahoma, 38,241,000; Kansas, 3,661,000; Texas, 45,319,000; Louisiana, 6,709,000; Arkansas, 973,000; Rocky Mountain, 6,098,000; and California, 52,825,000.

The heavy refinery demand for naturals in October was reflected in stocks, particularly in stocks at plants and terminals which declined 19,362,000 gallons during the month. Total stocks of natural gasoline declined 16,380,000 gallons during the month and on October 31 were 191,310,000 gallons. A great portion of the decrease in plant stocks was accounted for by a decline in these stocks in Oklahoma; the decline being from 25,890,000 to 17,453,000 gallons.

For much the same reason as refineries increased their purchases of natural gasoline in October, that is, to improve the starting qualities of their motor fuel, jobbers and retailers increased their receipts in October. On the other hand, exports of naturals declined. Because of the seasonal influences the average vapor pressure of the natural gasoline sold in October was higher than in the previous month.

Carbon Black Pickup

United Carbon Co. is reported rounding out a record year. The carbon black industry as a whole has witnessed a sharp pick-up in sales this year, with the result production has not kept up with demand. Inventories of carbon black are now equivalent to slightly more than two months' supply against more than four months' stock at the end of 1935.

Columbian Carbon Co.

Natural gas sales of Columbian Carbon Co. in 1936 have run 36 per cent ahead of last year. Its carbon black sales have exceeded production throughout the year, rendering additional factory construction necessary in 1937. Within the past three months, the company has purchased the plants of Keystone Carbon Co., near Monroe, La., and of Miner-Edge Co. at Monmouth Junction, N. J.

DEPARTMENT OF GEOGRAPHY

LOPEZ FIELD

(Continued from Page 17)

drawal. With few exceptions, 10 feet has been the maximum saturated section taken in by any of the wells. The water level has been determined at 1,605 feet, subsea depth, and except on the extreme east side 10 feet of saturated section leaves a sufficient margin above the water and is capable of producing any quantity of oil proration will permit.

For completion it has been customary to set approximately 20 feet of perforated liner, three-sixteenths inch perforations, with tubing run to within 3 to 4 feet of the top of the liner. On the surface, only light weight, simple well hook-ups are needed. Although the practice is not universal, wells of Mills Bennett Production Co. and several other operators, have been equipped for jetting. Flow valves have been set in the tubing of that company's wells. While most of these wells flow under their own pressure, or would flow if permitted to produce steadily, it sometimes is necessary to rock or jet them to kick them off. A few wells with unusually low-pressure conditions require agitation to produce. It generally takes less than 80 pounds pressure to kick a well off and start it flowing naturally.

Two companies, however, have installed powers on their leases. These leases are on the extreme eastern and southern ends where there is not so much gas. Wells on such leases build up a head of fluid which would flow if produced steadily, but under intermittent production imposed by proration, agitation is required to lift this head of oil and kick the wells off.

Bottom-hole pressure average around 700 to 750 pounds, theoretically, slightly below normal for fields of that district at that depth. However, due to uniform well spacing, the care followed in completion of wells, and efficient production practices and low rate of withdrawal, the reservoir energy, including both gas and a favorable hydrostatic head, is being conserved to the utmost, and operators anticipate a long flowing producing life and high percentage of recovery.

A project for repressuring the field with gas from the Peters area, 3 miles east, has been under consideration by several operators. In that field a sufficient reserve of gas has been indicated either for gas-lift operation at Lopez or for repressuring the sand, if the supply at Lopez is not adequate. Sand conditions at Lopez are believed to be favorable for repressuring.

Scarcity of good water has been the principal problem. This has encouraged the use of mechanical rigs. However, steam rigs have been operated. Superior Oil Co. used a diesel-electric rig. The power unit would be set up in a central location, and the electric rig would be moved to four successive locations.

The rig operated by Mills Bennett Production Co. made use of an old skid-type gasoline engine pulling unit. The alteration that had to be made was to change the rotary sprocket and to replace the high-drum sprocket with one of reduced size. This rig included a 16-inch mud pump driven by a separate gasoline engine.

In assembly of this rig, the company paid particular attention to unitization, to facilitate moving and increase drilling time. The derrick, rotary and the engine and drawworks unit can be moved at the same time. The derrick, built on skids, can be moved without tearing down. The drawworks and engine unit is pulled on the derrick floor. Only two connections, the mud line to the standpipe and the water line, have to be broken. The whole unit can be dragged with a truck. The mud pump and engine drive unit, the fuel and water tanks, and the pipe rack also are mounted on skids.

It has not been unusual for this company to complete a well in the morning and have surface pipe cemented on the next test the same afternoon.

Crude Oil and Refinery Situation Summarized — First Ten Months

Supply and Demand—Crude Oil (Bbls.)

First 10 months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Indicated domestic demand‡	Exports	Stocks refinable crude Oct. 31
1936	936,803,000	959,163,000	22,360,000	2.4	909,846,000	26,957,000	916,790,000	42,373,000	292,271,000
Daily average	3,071,000	3,145,000	73,000	.....	2,983,000	88,000	3,006,000	139,000	.....
1935	845,416,000	865,515,000	20,099,000	2.4	818,755,000	26,661,000	822,524,000	42,991,000	317,155,000
Daily average	2,781,000	2,847,000	66,000	.....	2,693,000	88,000	2,706,000	141,000	.....
Increase, 1936	91,387,000	93,648,000	.....	.....	91,091,000	296,000	94,266,000	†618,000	†24,884,000
Increase, 1936	10.8%	10.8%	.....	.....	11.1%	1.1%	11.5%	†1.4%	†7.8%

Supply and Demand—Refinery Products—Motor Fuels (Bbls.)

First 10 months—	Total supply	Total demand	Excess Demand	Excess Pct.	Domestic production	Imports	Domestic demand	Exports	Stocks Oct. 31§
1936	426,867,000	425,419,000	*1,448,000	*0.3	426,867,000	.....	402,279,000	23,140,000	62,217,000
Daily average	1,400,000	1,395,000	*5,000	.....	1,400,000	.....	1,319,000	76,000	.....
1935	383,963,000	386,953,000	2,990,000	0.8	383,943,000	20,000	362,866,000	24,087,000	54,182,000
Daily average	1,263,000	1,273,000	10,000	.....	1,263,000	.....	1,194,000	79,000	.....
Increase, 1936	42,904,000	38,466,000	.....	.....	42,924,000	†20,000	39,413,000	†947,000	8,035,000
Increase, 1936	11.2%	9.9%	.....	.....	11.2%	†100.0%	10.9%	†3.9%	14.8%
Kerosene									
1936	45,795,000	45,734,000	*61,000	*0.1	45,794,000	1,000	40,388,000	5,346,000	7,976,000
1935	46,311,000	43,391,000	*2,920,000	*6.7	46,311,000	.....	37,847,000	544,000	9,318,000
Increase, 1936	†516,000	2,343,000	.....	.....	†517,000	1,000	2,541,000	†198,000	†1,342,000
Increase, 1936	†1.1%	5.4%	.....	.....	†1.1%	.....	6.7%	†3.6%	†14.4%
Gas Oil and Fuel Oil									
1936	367,156,000	358,200,000	*8,956,000	*2.5	351,622,000	15,534,000	330,476,000	27,724,000	112,940,000
1935	316,502,000	316,947,000	445,000	0.1	299,326,000	17,176,000	294,713,000	22,234,000	109,952,000
Increase, 1936	50,654,000	41,253,000	.....	.....	52,296,000	†1,642,000	35,763,000	5,490,000	2,988,000
Increase, 1936	16.0%	13.0%	.....	.....	17.5%	†9.6%	12.1%	24.7%	2.7%
Lubricating Oils									
1936	25,488,000	25,937,000	449,000	1.8	25,485,000	3,000	18,917,000	7,020,000	6,576,000
1935	22,834,000	23,553,000	719,000	3.1	22,834,000	.....	16,589,000	6,964,000	6,612,000
Increase, 1936	2,654,000	2,384,000	.....	.....	2,651,000	3,000	2,328,000	56,000	†36,000
Increase, 1936	11.6%	10.1%	.....	.....	11.6%	.....	14.0%	0.8%	†0.5%
Petroleum Wax (Lbs.)									
1936	402,786,000	404,412,000	1,626,000	0.4	388,920,000	13,866,000	250,879,000	153,533,000	113,049,000
1935	386,611,000	398,190,000	11,579,000	3.0	368,200,000	18,411,000	217,255,000	180,935,000	124,557,000
Increase, 1936	16,175,000	6,222,000	.....	.....	20,720,000	†4,545,000	33,624,000	†27,402,000	†11,508,000
Increase, 1936	4.2%	1.6%	.....	.....	5.6%	†24.7%	15.5%	†15.1%	†9.2%

*Excess supply. †Decrease. ‡Crude oil only. §Includes finished, unfinished refinery gasoline and natural gasolines. Note: Total supply equals domestic production plus imports. Total demand equals domestic demand plus exports. Data on demand for refined products are based on refinery shipments.

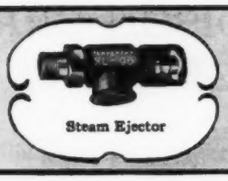
Crude Oil Runs to Stills and Total All Oils (Bbls.)

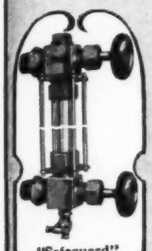
First 10 months—	Total imports§	Total exports§	Total crude to stills	Per cent yield gasoline‡	Nat. gasoline production	Total supply all oils*	Total demand all oils*	Stocks all oils Oct. 31
1936	47,377,000	107,758,000	885,941,000	47.1	34,260,000	993,546,000	1,007,815,000	527,431,000
Daily average	155,000	353,000	2,905,000	....	112,000	3,258,000	3,304,000	.....
1935	44,140,000	104,137,000	798,071,000	47.2	31,606,000	896,008,000	913,301,000	546,855,000
Daily average	145,000	343,000	2,625,000	....	104,000	2,947,000	3,004,000	.....
Increase, 1936	3,237,000	3,621,000	87,870,000	....	2,654,000	97,538,000	94,514,000	†19,424,000
Increase, 1936	7.3%	3.5%	11.0%	....	8.4%	10.9%	10.3%	†3.6%

*Total all oils includes crude and refined products, natural gasoline and benzol. †Decrease. ‡Includes natural gasoline blended at refineries. §Includes crude oil and refinery products. In case of imports includes receipts in bond and for domestic use. All data based on Bureau of Mines reports.

Hydraulic Ejector

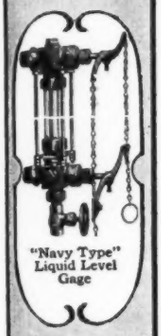
PENBERTHY PRODUCTS


Steam Ejector

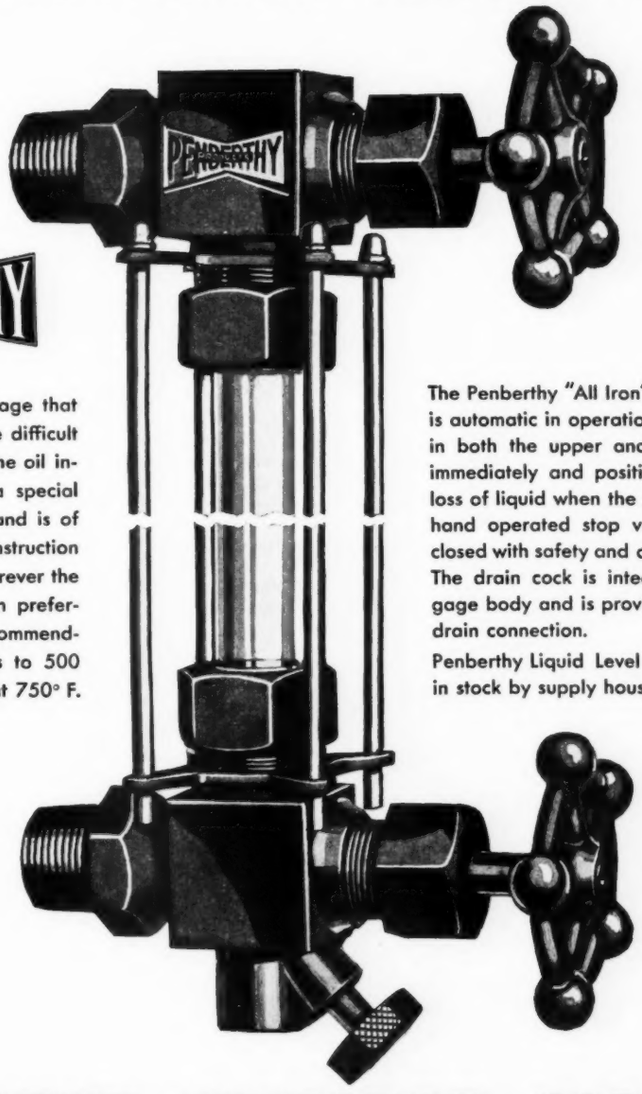

"Safeguard" Automatic Liquid Level Gage

Automatic Injector

"ALL IRON"
LIQUID LEVEL GAGE
FOR 500 LBS. WORKING PRESSURE AT 750° F.


"Navy Type" Liquid Level Gage

Gas Engine Lubricator

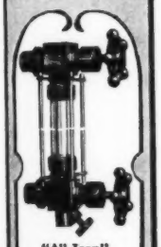


PENBERTHY PRODUCTS

HERE is a liquid level gage that is ideally suited to the difficult service requirements of the oil industry. It is made from a special high strength alloy iron and is of exceptionally rugged construction throughout. It is used wherever the liquid handled makes iron preferable to brass, and is recommended for working pressures to 500 pounds per square inch at 750° F.

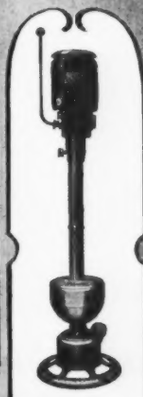
The Penberthy "All Iron" Liquid Level Gage is automatic in operation. Ball check valves in both the upper and lower body close immediately and positively to prevent the loss of liquid when the glass is broken; the hand operated stop valves may then be closed with safety and a new glass inserted. The drain cock is integral with the lower gage body and is provided with thread for drain connection.

Penberthy Liquid Level Gages are carried in stock by supply houses everywhere.


"All-Iron" Automatic Liquid Level Gage

Snap Lever Oiler

Automatic Cellar Drainer (Water or Steam Operated)


Automatic Electric Sump Pump

Spring Compression Grease Cup

Plain Compression Grease Cup

Screw Plunger Grease Cup

PENBERTHY INJECTOR COMPANY

Manufacturers of Quality Products Since 1886

DETROIT, MICHIGAN WINDSOR, ONTARIO

NEW MADISON GRAND JURY SWORN; CHALLENGED JURY DISCHARGED

MADISON, Wis., Dec. 15.—A new federal grand jury sworn in today will start immediately to investigate marketing practices of the oil industry. This development follows the action of Judge Patrick T. Stone last night in signing an order discharging the old grand jury on the ground that it had completed its work. He ordered its documents and records impounded for the use of the new jury.

It is known several witnesses who appeared before the old grand jury have been subpoenaed to appear here to testify before the new grand jury.

These were the latest developments in the "oil" case. They follow the action of indicted companies and individuals last week in attacking the manner in which the first grand jury was impaneled. This plea in abatement was made by counsel representing most of the defendants at the opening of the regular term of court for the western district of Wisconsin when pleas were to be made.

It was made clear here today that the convening of a second grand jury does not mean government attorneys are conceding that the indictments returned against 26 oil companies, three trade publications and 72 individuals for alleged violation of the antitrust law are invalid.

Replications will be filed in federal court answering all points raised by defense counsel in a joint plea in abatement challenging the indictments on grounds that the grand jury which returned them was drawn illegally.

The old grand jury which returned the oil indictments and which was continued in session after expiration of the 1935 term on December 1 for the sole announced purpose of completing consideration of matters still pending before it, concluded its work. A group photograph was taken Friday and a reportedly "farewell" banquet was held that night at a Madison hotel.

Court authorities have declined to discuss the procedure by which the new jury was impaneled beyond that it has complied fully with the statutory provisions. The plea in abatement filed by the defendants on the two general indictments returned July 28 and November 6 alleged that the prescribed method of depositing jurors' names in the call box alternately by the clerk of court and jury commissioner was not strictly followed.

The government's new step, while announced as a regular course of action to prepare for the handling of criminal cases developing since the expiration of the old term, is interpreted here as a precaution to avoid loss of time in preparing new indictments in case the court sustains the defense plea and quashes the original true bills. Federal counsel will be ready, it is believed, to have new indictments prepared and voted immediately if the old ones fall.

Answering an inquiry by Judge Patrick T. Stone when the defense plea was presented, John Henry Lewin, chief of the special government legal staff assigned here for the oil industry investigation, expressed confidence that "new and better" indictments could be obtained within three weeks.

The 30 days granted by the court for the government to answer or demur to the plea will expire January 1.

TAX COMMITTEE MEETING

DALLAS, Tex.—At a joint meeting here of the standing committees on state and local taxation and federal income and excise taxation of the Mid-Continent Oil and Gas Association, F. B. Plank, Empire Oil and Refining Co. of Bartlesville was re-elected general chairman of the executive committee on federal income and excise taxation. H. D. Mahin of Bartlesville was named general vice chairman, succeeding J. C. Wallingford of Tulsa.

Several members were added, including V. G. Gillingham of Houston, S. M. Greenidge of Fort Worth, H. F. See of Dallas, J. A. McNeese of Ponca City. Those re-elected were Fred B. Branson of Tulsa, Gay Carroll of Houston, R. W. Clark of Tulsa, M. J. Lasseigne of Shreveport, T. H. Marshall of Oklahoma City and G. L. Tate of Dallas.

On the executive committee of the standing committee on state and local taxation, George W. Foster of Houston succeeded Glen E. Thompson of Tulsa as general chairman and A. J. Wells, Tulsa, was named vice chairman, succeeding O. C. Cash, Tulsa.

Dan D. Harley of Tulsa was named chairman of the Oklahoma steering committee while new members are C. C. Deardorf, Tulsa and H. L. Stone, Houston; M. J. Lasseigne, Shreveport; F. N. Shriver, Houston. John W. Campbell of the Mid-Continent association at Tulsa was re-elected secretary to this committee and the general steering committee chairmen. These include W. Leo Austin of Tulsa, chairman of steering committee on federal income and capital stock taxes; John Cullen of Ponca City, federal excise taxes; T. H. Marshall, Oklahoma income and excise tax; H. B. Latting of Tulsa; H. F. See, New Mexico, and M. J. Lasseigne, Louisiana-Arkansas.

A.A.P.G. CALIFORNIA MEETING

The twenty-second annual convention of the American Association of Petroleum Geologists will be held in the Biltmore Hotel, Los Angeles, March 17, 18 and 19, 1937. This is the first time California has had this convention since the meeting in San Francisco, March, 1928. The 1936 convention took place in Tulsa. Approximately 1,000 members are expected to be welcomed by the Pacific section of the association. The technical and business program will consume three days with field trips and entertainment. Affiliated societies of Economic Paleontologists and Mineralogists and of Petroleum Geophysicists will convene in separate technical sessions in the Biltmore Hotel at the same time. On Saturday and Sunday after the convention, field trips into the San Joaquin Valley will afford the visitors an opportunity of viewing geological conditions as far north as Kettleman Hills and Coalinga.

W.P.R.A. TECHNICAL SESSION

More than 50 Arkansas, Louisiana and East Texas refiners met in the Garrett Hotel in El Dorado, Ark., December 11 to attend the technical group session of Ark-La-Tex division of the Western Petroleum Refiners Association. The meeting was considered one of the most interesting held by the association.

A. W. Trusty, chief chemist of the Louisiana Oil Refining Corp., was principal speaker, presenting a paper on "Interpretation and Significance of the Distillation Range of Motor Fuel." A lively discussion followed. Mr. Trusty also led an informal discussion on the proposed changes in the method of determining octane ratings.

THE MARKETS*

CRUDE OIL: ***Market tight, with no clear indication as to what course will be pursued by major buyers with reference to the Continental Oil Co.'s action in advancing the price of crude 17 cents, effective January 4.***

REFINERY: ***Kerosene, distillates and fuels buoyant, with tankcar prices moving higher. Still further advances believed probable both because of spirited demand and because of prospective increases in the cost of crude. High-octane gasoline stronger in most areas.***

TANK-WAGON and SERVICE STATION: ***Prices advanced in scattered areas. Gasoline prices raised 1 cent throughout Oklahoma.***

FINANCIAL: ***Some issues made new highs for the year and almost all showing greater strength. Average of 30 representative stocks for week ending December 12: High, 39.57; low, 37.86; close, 39.02. Week ending December 5: High, 39.41; low, 37.20; close, 38.97.***

Detailed information in Market Section.

"HOT" OIL IN STORAGE

AUSTIN, Tex.—Figures received by the Railroad Commission from its East Texas offices show there are 2,948,360 bbls. of oil in storage alleged to have been illegally produced and for which tenders are not now available. Of the total 1,538,551 bbls. are in steel tanks and 1,359,809 bbls. in earthen storage and pits. According to Railroad Commissioner Lon A. Smith, eastern brokers are taking options on this oil hoping to find a way to move it abroad.

SUN ABSORBS SUBSIDIARIES

All of the subsidiaries of the Sun Oil Co. have been absorbed and operate as of December 1 under the parent name. Included in the merger was Twin State Oil Co. J. Edgar Pew, who was its president, remains as vice president and general manager of the parent unit, and E. J. Gorman, who was vice president and general manager, becomes zone agent for Oklahoma and Kansas.

TANKER CONSTRUCTION

Oil tankers comprise a large portion of vessels under construction in American shipyards, according to the ship-building survey of the American Bureau of Shipping, which lists 157 craft of all types building.

At present there are 92 vessels, with tonnage totaling 163,745 tons, being built, which includes 6 oil barges and 17 tankers, 9 of which have been contracted for by the Standard Oil Co.

Other oil companies who have tankers in the process of building are Gulf Oil Corp., Luzo Petroleum Transport Co., Socony Vacuum Oil Co., Sun Oil Co., Atlantic Refining Co. and the Pan American Petroleum & Transport Co.

SLOAN & ZOOK CHANGE

BRADFORD, Pa.—A consolidation of the Sloan & Zook Co., Sloan & Zook Producing Co., Sloan & Zook Oil Co. and Sloan & Zook Petroleum Co., with the surviving corporation to be known as the Sloan & Zook Co., is announced.

STATE TAX ON U. S. LAND

WASHINGTON, D. C.—British-American Oil Producing Co. lost in Supreme Court its contest against paying taxes to Montana on crude from Blackfeet Indian reservation land.

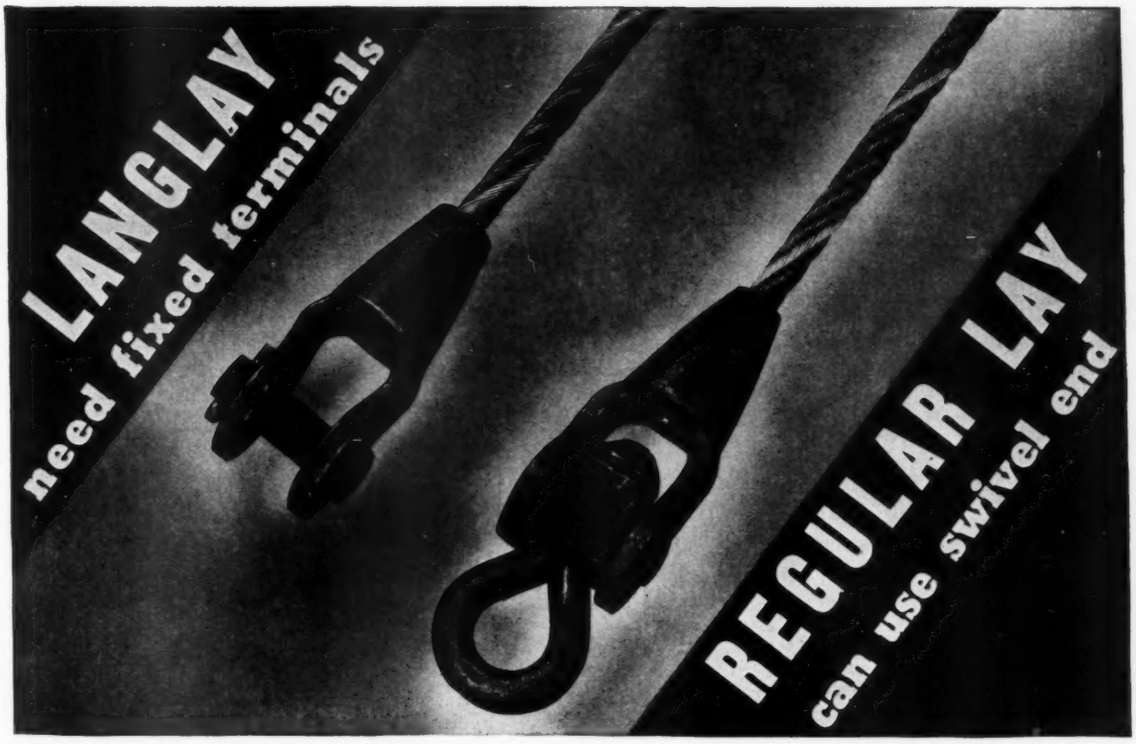
The company sought to enjoin collection of the taxes on the ground the state had no right to levy an assessment upon property of the United States, owner of the reservation.

Counsel for the State Tax Commission contended congressional acts of 1924 and 1927 had granted permission to the state to collect such taxes "as long as the taxes did not become a lien on the land or a charge against the property."

MILLION OSAGE PAYMENT

Indian agency officials at Pawhuska, Okla., announced approximately $1,000,000 would be distributed among Osage Indians December 17 as their last quarterly payment from this year's oil and gas royalties.

Each of 2,227 headrights will be paid $365, a total of more than $880,000. Restricted Indians with reserve funds to their credit will draw $1,000. The payments will bring the total for the year for each headright to $1,830.



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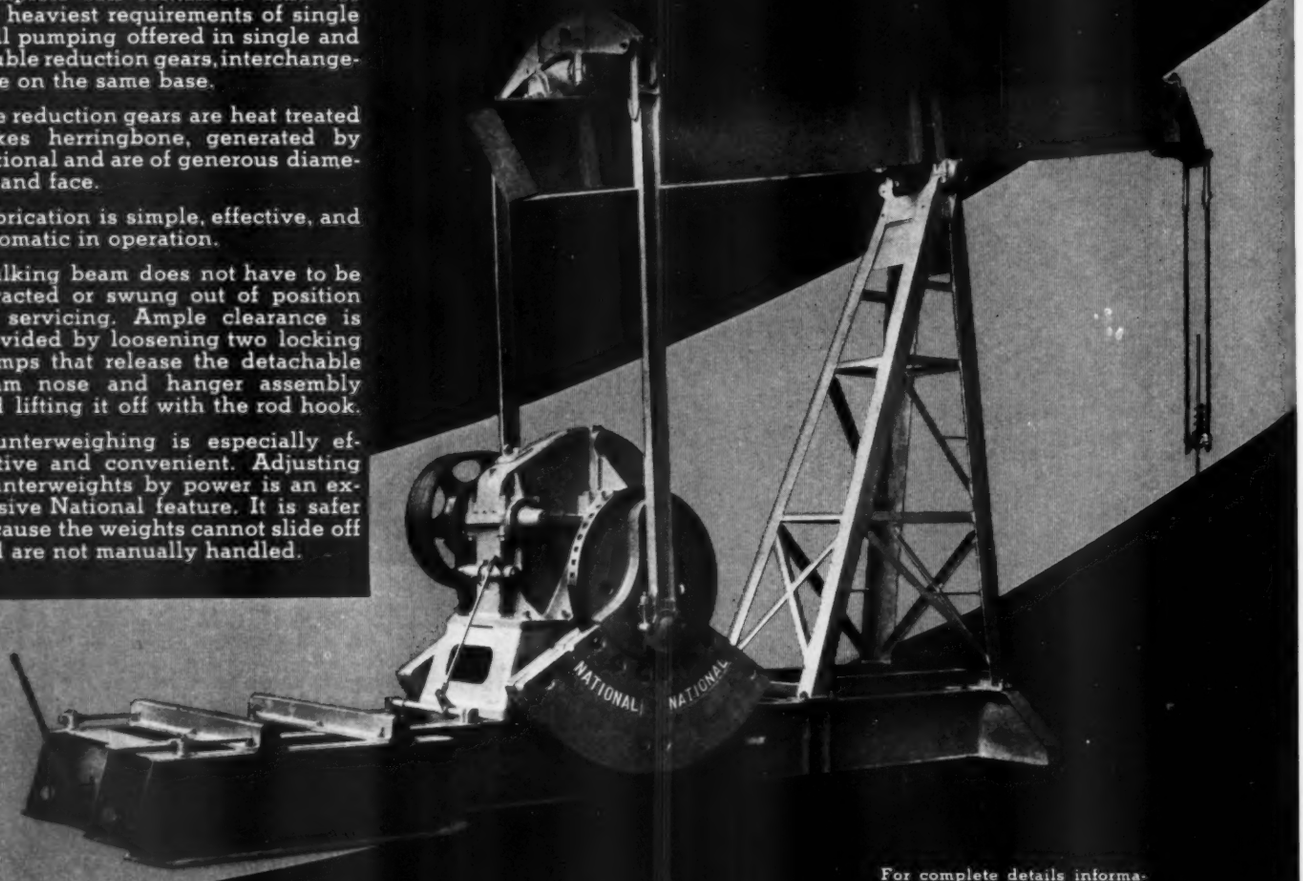

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Puzzles in Security Act Rise as Machinery Starts to Move

By T. F. SMILEY

Grating a little of course, as is the way with new machinery, the agencies for administration of the Social Security Act are now in motion; and as the date for collection of taxes under the measure draws near, fresh puzzles for the oil industry are brought to light. These and the prodigious labor involved in keeping the mass of records imposed by the law are accepted philosophically, and divergences of opinion concerning the merits of this adventure in social welfare legislation are pretty thoroughly submerged by the realism and finality of "It is the law."

One of the newer questions with which legal staffs have been grappling centers around the status of commission agents. Can a man be an employe and an employer too? The gasoline stored at a refiner's bulk station usually reaches retail outlets through a man who works on commission. He hires other men to help him. First, is this commission agent an employe or an employer? If it be decided that he is an employe, are the men under him his employes or the refiner's?

Unit and partnership operations provide subjects for controversy. Suppose A and B are two oil companies which jointly own an oil lease on which only seven men are employed. By agreement actual operation of the lease is in the hands of A. Does this "mining partnership," as it is known in law, constitute a taxing unit under the Social Security Act? If it does not, then the seven workers will not come under the provisions of the unemployment insurance section of the act and cannot receive its benefits, though their claim to old-age benefits will not be affected. On the other hand, if it be held that A is the employer, then the seven men will have the same standing as A's workers on other leases or jobs of various kinds. This issue rises from the fact that for the purpose of unemployment insurance benefits (these are not paid by the federal government, but by states which have passed unemployment insurance laws) an employer is one who employs eight or more individuals on each of some 20 days during a calendar year, each such day being in a different calendar week.

A further question is likely to arise in this connection. If two or more individuals or companies jointly own a lease, employing eight or more persons and with one of the owners designated to operate it, and it is ruled that the operator, and not the owners as a unit, is the employer, may that operator charge back to the other associated owners their proportionate share of the tax and of the cost of collecting it?

FEDERAL INSTRUMENTALITIES

Debate has been aroused by that section of the act which defines employment and exempts "service performed in the employ of the United States government or of an instrumentality of the United States"; also "service performed in the employ of a state, a political subdivision thereof, or an instrumentality of one or more states or political subdivisions." Are leases of Indian lands in Oklahoma "federal instrumentalities"? If they are, then all the workers employed by oil operators on these leases are apparently outside the pale of the Social Security Act and its benefits. The question applies both to leases bought from the tribal government of the Osages, who are wards of the federal government, and to leases on restricted Indian lands of the Five Civilized Tribes.

In the case of state-owned land or state school land a federal court decision has cleared up this question so far as it relates to the university land of Texas, the judge having ruled in an income-tax case that a university-land lease is not a state instrumentality. In an income-tax case in Oklahoma a federal court decision was that a lease on state school land was a state instrumentality. There is a difference of opinion among lawyers as to whether the Bureau of Internal Revenue will make a similar ruling concerning these state-owned lands for the purposes of the Social Security Act.

The question of who is an employe continues to be a troublous one in connection with much of the work done in the oil industry. Many short-time jobs are performed either through a contractor or by directly hiring an individual workman. These jobs include such work as hauling material, clearing land of trees, building repairs, etc. The law in general is to the effect that if control of the method of performing details lies with the one for whom the work is done, an employer-employe relationship exists. If, however, an oil company were to retain control only over the results to be produced, leaving the method of performing details to the one doing the work, then the relationship would be that of an independent contractor.

CONFLICTING VIEWS PROBABLE

It is not likely that any serious question will arise over which of these relationships exists in the case of large operations, such as the construction of a pipe line or of a refinery. It is wholly probable, however, that conflict of view will emerge in smaller projects, where the company's representative may keep some measure of control over details of the work. If both the oil company and the contractor refused to assume the role of employer under the Social Security Act, the Bureau of Internal Revenue would have to step in and assess one or the other for the payroll tax. The one assessed might then demand a refund of the tax, and this being refused, file suit. The difficulty in this type of problem lies in the fact that each case would have to be decided on its own merits and it would provide little or nothing in the way of a precedent for other cases.

Other questions are coming to view from week to week, to be settled by official rulings or by court decisions in expected test cases. The Bureau of Internal Revenue ruled last week that benefits paid to a person under the provisions of a state workmen's compensation law "are not remuneration for employment and therefore are not wages" within the meaning of the Social Security Act and thus are not subject to tax. Another ruling ended uncertainty concerning the regulation which requires that each employer shall furnish to employes a statement of taxes deducted from wages or salary paid. There was doubt as to whether this meant a separate statement or one made on the pay-check. The bureau ruling was that a statement on the check was sufficient.

One important hurdle was taken by the new law last week, when Federal Judge George C. Sweeney, sitting in Boston, Mass., ruled that the act was constitutional and denied George A. Davis, a stockholder of the Boston & Maine Railroad, an injunction which would have restrained the company from deducting money from the pay of employes and turning it over to the Bureau of Internal Revenue as provided in the act.

INSURANCE PROVISION ATTACKED

Attorney Edward F. McClennan, counsel for the plaintiff, attacked section 9, the unemployment insurance provision, contending that the tax imposed was not an excise tax, that it lacked uniformity,

What the Law Means

The Social Security Act operates under two main heads: (1) Old-age retirement benefits for employes from taxes levied against both employers and employes. (2) Unemployment insurance benefits for employes out of contributions paid in states which have unemployment insurance laws.

Old-age retirement benefits will be paid by the government, but unemployment insurance benefits by the states. If there is no state law, there will be no unemployment insurance benefits.

Monthly payment of old-age benefits will begin January 1, 1942, as qualified individuals reach 65.

Liability for taxes from employers and employes begins January 1, 1937. The employer will deduct 1 per cent of wages in 1937, 1938 and 1939; 1½ per cent in 1940, 1941 and 1942; 2 per cent in 1943, 1944 and 1945; 2½ per cent in 1946, 1947 and 1948; 3 per cent in 1949 and thereafter. The employer will transmit this money, with his own payments, to the government.

The payroll tax paid by the employer is at the same rate as paid by the employe. No tax is levied for either employer or employe on worker's earnings in excess of $3,000 a year.

The federal government also imposes on the employer an excise tax of 1 per cent of the payroll in 1936, 2 per cent in 1937 and 3 per cent in 1938 and thereafter. This tax is levied on all employers, but will be collected in full only from employers in states which have failed to pass unemployment compensation laws approved by the government. Employers in states which have such laws may get credit up to 90 per cent of the federal tax for contributions they pay into their state unemployment compensation fund.

To receive old-age benefits an individual must have received not less than $2,000 total wages between December 31, 1936, and his sixty-fifth birthday. Wages must have been paid him on some day in each of 5 years. The benefits will depend upon the total wages received. Not less than $10 or more than $85 monthly will be paid.

If an employe has paid taxes, but is not qualified for monthly benefits he will receive back, in lieu of such benefits, a lump payment equal to 3½ per cent of total wages (not counting wages in excess of $3,000 for any calendar year from any one employer) paid to him after December 31, 1936, and before he reaches 65.

Price arithmetic

A Mid-continent refiner selling residual fuel oil at 1½ cents per gallon, made from crude that costs him 3½ cents is not getting his money back—
OIL AND GAS JOURNAL, November 12, 1936

That's just as true today as it was on November 12, but why sell it and lose money?

Dubbscrack it into high anti-knock gasoline that brings 3½ times the price and Dubbscracked fuel oil that is worth more than the oil you started with*

That's the way to make money

** On the same day that Oil and Gas Journal quoted straight-run fuel oil at 1½ cents a gallon it quoted 68-70 octane gasoline at 5⅝ to 5¾ cents a gallon f. o. b. group 3*

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

that it took property without due process of law, and that it was not for the general welfare.

"If this imposition is just for raising revenue," argued Mr. McClennan, "there is no conceivable reason for picking on the people who have been picked upon to pay. It is capricious on that account, and anything capricious is not uniform. When you attempt to tax people simply for being employers it is capricious to leave out people employed in agriculture. Employers in that situation are in exactly the same position as employers of 9 or 10 persons." He contended provisions of the act showed clearly that it was not to raise money, but a means adopted to saddle upon the states the virtual necessity for legislation which has the approval of persons in the national government. This, he said, did not constitute something for the general welfare of the United States.

Judge Sweeney ruled: "It is a valid excise tax. It does not exceed the powers of congress. It is a tax for the general welfare of the nation."

Mr. McClennan said the case would be taken to the United States Circuit Court of Appeals. Mr. Davis sought the injunction originally to prevent payment of both the state and the federal tax, but dropped the action against the state act to allow consideration of the federal case

The United States Supreme Court recently decided that the New York State Unemployment Compensation law did not take property without due process of law, and thus did not violate the Fourteenth Amendment to the constitution. Its decision was expected to speed up passage by other states of legislation necessary for employes in the state to get unemployment compensation benefits.

ONE FEAR LESSENED

One regulation of the Bureau of Internal Revenue provides that if an employer has "more than one establishment" he shall file a separate application for an identification number for each "establishment." This was taken to mean that in the case of an integrated oil company separate identification numbers, each involving a separate set of accounts, might be assigned to each of its different branches; that is, one to its producing branch, another to its refining branch, still another to its marketing branch, and so on. Fear had been expressed that this multiplication of identification numbers, with its further complication of bookkeeping, might even go to the length of assigning different ones to the various divisions of any one of these branches; one, for example, to the Oklahoma division of a company's producing department, a second to the Kansas division, etc. Action of the Postoffice Department in local cases indicates, however, it is the intention of the government to permit assignment of one identification number to an employer, that number to cover all its activities.

Thus far some 9,500,000 workers have gained the protection of unemployment insurance through enactment in the last year by 17 states and the District of Columbia of laws conforming with the requirements of the Social Security Act. Oklahoma was the latest state to pass such a law. Other states have indicated to the board their intention to introduce such legislation. Practically every other state has been seeking information on the subject from the board. Conformity with the minimum requirements of the act means for any state that the cost of administering its unemployment benefit is borne by the federal government and that employers of eight or more persons in the state may get credit up to 90 per cent of the federal tax for contributions they pay into the state unemployment compensation fund.

FOREIGN WORKERS NOT TAXED

In the case of an oil company with home offices in the United States, but with some of its operations in foreign lands, workers in such foreign fields are not taxable under the act even though the salaries originate in this country. Also these workers receive no benefits under the act. In explanation of this ruling it is pointed out that employment is defined in the law as "any service of whatever nature performed within the United States by an employe for his employer," with certain specified exceptions. Since the work performed by employes abroad is not "within the United States," they are considered exempt.

Of the 26,000,000 workers who should have received account numbers since application forms were distributed through the Postoffice Department November 24, around 1,000,000 are directly employed in the oil industry. Testimony that oil companies and their employes have been cooperating fully with the Social Security Board and the Postoffice Department is received from the regional offices of the board and from the "typing centers" established throughout the country. This cooperation has been of immeasurable help to the government in the task of assigning account numbers to the millions of workers. The cooperation accorded by oil companies is no indication of the companies' opinion concerning the legality of the new law. One of the largest oil companies in the world, with huge foreign interests, returned its employes' application forms promptly and filled out with meticulous care, accompanied by a letter stating it was doing this under protest and that it questioned the constitutionality of the law.

The federal government, and not the individual employer, it has been explained officially, will become liable for the return of employes' contributions in the event of the act being declared unconstitutional. A section of the act indemnifies the employer against claims.

Discussion of the new law has revealed an opinion on the part of some observers that most employers of necessity will treat the security tax as they treat any other tax, passing it on to the public. These analysts say the tax will come to be regarded as an item of business overhead, forming part of the basis upon which prices for goods or services are calculated. If a manufacturer, for example, treats the tax that way, his competitors will be compelled to follow the same course. If all do it, a situation will be created in which the employe not only will pay a percentage of his wages into the pension fund; but when he buys a hat, a cookstove, a handsaw or an automobile, he will be paying the employes' share of the tax too. Some lawyers hold that it will be found impossible to pass the tax on to the consumer in that way, especially in the oil business, and that the tax simply will mean a narrower margin of profit.

OBITUARIES

CHARLES P. TUBRE, 67, retired oil man of Bunkie, La., died in Baton Rouge, La., last week.

GEORGE JAMES HALIBURTON, of the Haliburton Oil Well Cementing Co., died in Calgary, Alberta, recently following a traffic accident.

JAMES J. WEEKLEY, chief auditor for Wirt Franklin Petroleum Corp. in Oklahoma City, since 1919 died after an appendectomy at the Ardmore, Okla., hospital.

JAMES E. HUGHES died at his home in Pittsburgh, Pa., last week. Until his retirement three years ago, he was president of Mahutska Oil Co. of Robinson, Ill., which he formed approximately 30 years ago. He was the inventor of many tools used in oil drilling.

WILLIS LARIMER KING, 85-year-old "dean of the steel industry," died December 11, at Pittsburgh, Pa. He spent 67 years with the Jones and Laughlin Steel Corp., working from clerk in 1869 to the board of managers in 1899. He was one of the founders of the American Iron and Steel Institute.

IRA WALKER HUNTER, 80, who went to work in the oil industry at 16 when he hauled oil in barrels to loading docks in Pennsylvania fields, died December 13, in Tulsa. He was born at Prospect, Butler County, Pennsylvania. He went to Bradford in 1884 as a driller and contractor. In 1885 he was employed as production superintendent by Producers Consolidated Land and Petroleum Co., remaining with that organization until 1902, when he went with Enterprise Transit Co. at Bradford, Pa., later absorbed by Southern Pennsylvania Oil Co. He moved to Tulsa in 1923.

FAIR TRADE DECISION

(Continued from Page 11)

but the case has not been passed upon by the highest court in that state.

Summing up the situation, it appears that the extent to which resale price maintenance contracts will be used in the oil industry depends upon three things. First, the enactment of additional state laws and their validity under state constitutions. Second, federal legislation to permit such contracts to be made in interstate commerce. Third, competitive conditions within the industry. If leading marketers of branded gasoline undertake to maintain retail prices by the contract method it may result in general stabilization of prices, but if some refiners prefer not to take this step, or if prices of branded gasoline are fixed so high that sales of unbranded gasoline increase considerably the resale price maintenance contract system may prove to be entirely ineffective and unworkable.

The main purpose of the state fair trade acts is to stop the use of branded articles as loss leaders, that is their sale below regular prices in order to attract customers to stores in the hope of selling them something else or to give the impression that all commodities handled by that dealer are sold at similarly low prices. Since gasoline is seldom used as a loss leader, this factor is not important, but price maintenance contracts undoubtedly will be widely used to prevent price cutting of packaged goods frequently sold by filling stations, such as tires and lubricating oil.

Crude Oil Stocks

Stocks of domestic and foreign crude petroleum at the close of the week ending November 28 totaled 288,630,000 barrels, according to the Bureau of Mines, a decrease of 824,000 barrels, comprising decreases of 625,000 barrels and 199,000 barrels in stocks of domestic and foreign crude respectively. Crude runs to stills increased, the daily average being about 3,020,000 barrels, compared with an average of 2,995,000 barrels for the previous week. After three weeks of comparatively high imports of crude oil, the daily average receipts declined to 65,000 barrels for the week ending November 28.

STOCKS OF CRUDE PETROLEUM

Grade of crude oil—	November 21	November 28
Pennsylvania Grade	4,086,000	4,073,000
Other Appalachian	625,000	655,000
Lima-N. E. Indiana-Michigan	984,000	928,000
Illinois-S. W. Indiana	9,818,000	9,775,000
N. Louisiana and Arkansas	10,631,000	10,709,000
West Texas and S. E. New Mexico	28,716,000	28,305,000
East Texas	18,381,000	18,972,000
Other Mid-Continent	115,537,000	115,242,000
Gulf Coast	26,076,000	25,734,000
Rocky Mountain	25,465,000	25,503,000
California	30,478,000	30,276,000
Foreign	1,957,000	1,758,000
Total reported weekly	272,804,000	271,930,000
Estimates of unreported stocks	16,650,000	16,700,000
Total stocks	289,454,000	288,630,000

West Virginia Deep Wells

The geological department of West Virginia has just published a complete review of the Deep-Well Records of that state compiled under the direction of Rietz C. Tucker, assistant state geologist. It brings together for the first time a complete record of deep wells drilled in West Virginia and is accompanied by two maps, one an Isopach map showing intervals between the base of the Berea sand and the top of the Corniferous (Hunterville Chert) lime. By using this map and well logs it is possible to estimate depths to the known producing horizons within the state. The record of well logs is complete up to July 1, 1936.

The book contains 560 pages and two maps and was supervised by State Geologist Paul H. Price, Morgantown, W. Va.

Richberg Retires

Donald Richberg, former NRA administrator, who had been assigned to prosecute oil companies charged with having defrauded Osage Indians, has retired from the department of justice.

U.S. SCORES A Double SUCCESS!

NEW PLAN FOR ORDERING ROTARY DRILLING PACKINGS ACCLAIMED BY OIL INDUSTRY!

U.S. PACKING
SLUSH PUMP GLAND RINGS
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TO FIT SIZE OF PUMPS LISTED BELOW
ACME 14 x 7¼ x 16"
ACME 14 x 7¼ x 14"
ACME 15 x 7¼ x 18"
GARDNER 14 x 7¼ x 14"
GARDNER 14 x 7¼ x 16"
GARDNER FXQ x 7¾ x 16"
GARDNER 14 x 7¾ x 18"
GARDNER PWR. x 7½ x 14"
GARDNER FXQ x 7 x 14"
GARDNER 12 x 6¾ x 16"
JOHNSON Type J 12 x 6¾ x 14"
LUCEY H—10,000 12 x 6¾ x 14"
LUCEY I—1,000 12½ x 6¾ x 14"
STYLE 4480
SIZE J
WEIGHT 5 lbs.
QUANT.
United States Rubber Products, Inc.

This new, easy way to order field-tested U. S. Packings for Rotary Slush Pumps and Swivels has taken the oil industry by storm! When you need rotary packing, send a man to your supply store . . . have him tell the clerk what type of packing you need, its location, and the name and size of your swivel or pump. Pronto! . . . the clerk hands your man a set of correct U. S. Packing in a box like the one shown at left. He speeds back to the rig with the right packing for the right place. No need to worry about packing sizes or anything else. Time is saved, and the possibility of getting the wrong packing is eliminated. It's as easy as that! Use the rotary packings most popular in the oil fields today. Order U. S. Rotary Packings from your oil well supply store. If they cannot supply you, write U. S. Rubber, 1790 Broadway, New York.

←**FOR YOUR CONVENIENCE the label quickly and clearly indicates the name, size, and service of the correct U. S. Packing for your particular job.**

For toughest rotary drilling, specify U. S. "Matchless" (9500 lbs. burst) or U.S. "Peerless" (7000 lbs. burst).—Both have specially reinforced ends 36" long...both are flexible and built to stand the hardest oil field service.

WITH ROTARY PACKINGS AND HOSE!

Because U. S. Rotary Packings Are So Easy to Obtain and Like Rotary Hose Give Service Beyond Price and Specifications

Out of the 75 years of close contact between U. S. Rubber representatives and the oil industry have come many notable product achievements! Among the U. S. Rubber successes of today are: Flexible, reinforced, burst-resistant U. S. Matchless and Peerless Rotary Hose, Matchless Steam Hose, and Giant Rotary Mud Suction Hose.

Now U. S. Rubber scores another "first," and another overwhelming success with its new simplified plan for *ordering* Rotary Packings. Born of common sense and the recognition of oil industry needs that is typical of U. S. Rubber, this plan makes easily and unmistakably accessible the right U. S. Packing for every oil well rotary packing job.

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SUPPLY STORE MANAGERS . . . GET NEXT TO THIS NEW PLAN!

You're missing something big in the way of business if you aren't selling U. S. Rotary Hose, and if you haven't put the new U. S. Packing Plan into operation in your store! Supply stores are making repeat profits on this plan now . . . it makes ordering easy—no mix-ups on packing sizes . . . because every U. S. box is labelled with the names, sizes, and service for which a particular set is adapted. *Drillers* go for the U. S. package (see illustration) because there's no chance of getting the wrong packing. You keep inventories low, and cut down time spent in waiting on customers! Service your customers and increase your business by ordering your supply of U. S. Rotary Packings now! Write our nearest branch, or U. S. Rubber, 1790 Broadway, New York City, for special information on this new idea for selling and servicing Rotary Packings.

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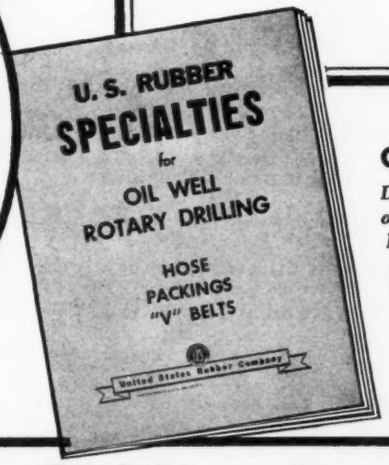

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Expressly Forbidden

In the general discussion of anticipated and justified improvement in the petroleum price structure next year, there is an occasional misconception which, if allowed to pass, may return to plague the industry. This is the inference that oil state regulatory bodies or the Interstate Oil Compact Commission have authority to consider prices.

The fact is that Article V of the compact as approved by Congress explicitly forbids that in the following words:

"It is not the purpose of this compact to authorize the states to limit the production of oil or gas for the purpose of stabilizing or fixing the price thereof * * * but is limited to the purpose of conserving oil and gas and preventing avoidable waste."

Without that safeguard Congress, with its eye on the consumer, would never have approved the compact. There were members, indeed, who were opposed to any regulation lest it lead to higher prices. They did not understand that state regulation as we know it and the compact itself originated from a different and very definite purpose, conservation of our oil and gas by the prevention of such enormous wastes as were being witnessed in East Texas and elsewhere at that time.

The states and the industry were immediately and primarily interested in regulations that would prevent continuance or recurrence of such conditions.

As Chairman Thompson of the compact commission said recently: "More than that the law will not allow us to do, and should not allow us to do."

The reduction and prevention of waste by regulation has been an important factor in assisting the industry to its feet after the depression. National recovery increasing the demand for petroleum products has restored normal conditions. Prices of food, clothing and commodities generally, determined by the relationship of consumption to supply, increased costs for raw material, labor and taxes, are going up.

Petroleum prices, affected by precisely the same factors, will naturally follow. And, as usual, politicians, in or out of office, who would fear to criticise price advances affecting farm products or those in which their constituents are interested, may seek to make the oil industry the scapegoat.

The bill to extend the life of the Interstate Oil Compact which otherwise expires in September may be seized as an opportunity to charge any increase in petroleum prices, however justified, to the policy of regulation. It would be unfortunate if any such assumption, so flatly contradicted by the scrupulous care with which the regulatory bodies have kept clear of any question of prices, should put an end to the compact.

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Oil News from Foreign Lands

Would Extend Agreement

Principal members of the Czechoslovakia mineral oil cartel have expressed their desire to extend the agreement for another five years from December 31, 1936, to December 31, 1941. The cartel which expires of its own terms the last of this month has been in existence since 1931 and controls 10 active refineries with producing capacity of 900,000 tons per year of various oil products.

The cartel also controls the production and prices of mineral oil through a central sales office. Due to the fact that Czechoslovakia's internal oil production is almost negligible, the markets in Rumania, Poland, U.S.S.R. and the United States practically regulate prices within the country.

The cartel controls imports and establishes production quotas for the member refineries based on supplies from abroad and internal requirements. During 1935, the last year for which complete figures are available, Rumania supplied 57 per cent of the Czechoslovakian requirements, Poland 16.50 per cent, U.S.S.R. .2 of 1 per cent and the United States 22.50 per cent. In 1931, the U.S.S.R. was supplying nearly 39 per cent, the United States only 5.08 per cent, Rumania 33.29 per cent and Poland 22.59 per cent.

Secrecy Enshrouds German Plans

Fulfillment of Chancellor Hitler's pledge to Germany that the country will become independent of foreign supplies of light fuels within 18 months will be carried on in secrecy.

The German press, which has given much publicity to the construction of plants for producing synthetic gasoline, has been advised by the Ministry of Propaganda and Public Enlightment to devote no more space to the subject.

The gag order will prevent free circulation of information on the construction program which is expected to be launched during 1937. At present more than 1,000,000 metric tons of gasoline is imported annually. Synthetic gasoline plants now in existence in Germany have a rated capacity of about 950,000 metric tons. The 1936 production probably will not equal the capacity, but reports have indicated that capacity will be exceeded in 1937. Germany has about 700,000 metric tons of light fuel available from other domestic sources, including alcohols and benzol blended with gasoline and gasoline produced from internally produced crude oil. The total visible domestic production of light fuels for 1937 is, therefore, little more than 1,700,000 metric tons, while consumption probably will be around 2,300,000 metric tons. Consumption will exceed domestic production by 600,000 metric tons.

The only two possible immediate conclusions to Chancellor Hitler's self-sufficiency pledge is to require more alcohol and benzol blending or to build additional synthetic gasoline plants.

Two processes are now in commercial operation for synthetic gasoline production and experiments are being conducted with two other systems. Four German plants are now in production using the Bergius patents and are yielding about 800,000 metric tons annually. The plants based on the Bergius patents are extremely expensive. Two plants having capacity of 350,000 tons are said to have cost approximately $40,000,000. They are economically sound only when capacities are great. The second process is known as the Fischer-Tropsch and there are four plants in Germany operating on this system capable of producing 150,000 metric tons a year. Installations are less expensive and are considered economically sound with capacities of 20,000 metric tons or more per year.

The Pott-Broche and the Dr. Uhde systems for synthetic production of light fuels are in experimental stages. Information so far indicates that the two newer processes are more adaptable to production of diesel engine oil, but they are relatively inexpensive and capacities of 20,000 tons per year probably will prove economical.

The smallest Fischer-Tropsch plant in Germany has an annual capacity of 25,000 metric tons, with 40,000 tons the average. Fifteen additional plants of average capacity will be required to make Germany independent in light fuels, unless other crude oil reserves are developed.

The United States Trade Commissioner's office in Berlin reports that German papers have carried no hints that the extensive indicated construction program will be attempted in 1937, although no other method of fulfilling Chancellor Hitler's pledge seems available.

High Taxes in Colombia

Under provisions of the new Colombian petroleum law enacted in December, 1935, the Tropical Oil Co. and Andian National Corp. paid to the Colombian government 5,202,440 pesos, nearly seven times the average annual tax payments by the same companies for the preceding nine years.

Tropical Oil Co., producing subsidiary of Imperial and Standard Oil Co. of New Jersey and Andian, the pipe line operating corporation, had combined gross incomes of approximately 21,500,000 pesos in 1935. Tropical's gross was 14,000,000 pesos and that of Andian corporation 7,500,000 pesos. The taxable capital setup of Tropical is 53,000,000 pesos and that of Andian 27,800,000 pesos.

Starnaptha's License Extended

The French government's license issued to Ste. Produits du Petrole (Starnaptha), has been extended to permit the company to import its petroleum products from whatever source it chooses. Until the recent revision, Starnaptha was confined to traffic in petroleum originating in Rumania.

The Starnaptha is reported planning to construct a refinery at some point in France, although details are only in primary stage. The company is also reported to have obtained permit to explore for crude oil production in one of the French colonies.

Venezuela's Production

Daily average crude oil production in Venezuela for November of 444,724 bbls. is the highest registered this year with the single exception of September. Last month's daily average was approximately 5,400 bbls. higher than registered in October and is nearly 30,000 bbls. above the production rate existing a year ago.

While production for the month of 13,341,670 bbls. was slightly less than in October, one day less in November more than accounted for the difference in totals.

Lagunillas, largest field in the Lake Maracaibo district, accounted for nearly all of the increase in daily average production. During October, Lagunillas produced a total of 7,451,440 bbls. or at the daily average rate of 248,382 bbls. Venezuela Oil Concessions, Ltd., contributed most of the advance, its daily average production climbing from 100,623 bbls. in October to 109,218 bbls. in November. Other variations were slight.

November production details are set out in the accompanying table:

VENEZUELA CRUDE PRODUCTION

By fields—	Nov., 1936 production	Daily av. Nov., 1936
Lagunillas	7,451,440	248,382
La Rosa-Ambrosia	1,787,689	59,590
Mene Grande	1,277,900	42,597
El Mene	76,530	2,551
Tarra	326,200	10,873
La Paz	13,000	434
Concepcion	87,000	2,900
Cumarebo	213,308	7,110
Quiriquire	2,080,253	69,342
Pedernales	28,350	945
Total	13,341,670	444,724
October, 1936	13,620,067	439,357
November, 1935	12,444,986	414,832
By companies—		
Lago Petroleum Co.	4,419,607	147,320
Venezuela Oil Concessions	3,276,500	109,218
Standard of Venezuela*	2,679,606	89,320
Caribbean	1,277,900	42,597
Colon	326,200	10,873
Venezuela Gulf	1,232,000	41,067
British Controlled	76,530	2,551
North Venezuela Petroleum Co.	53,327	1,778
Total	13,341,670	444,724

*Includes Creole's share in Lagunillas and La Rosa.

Daily Average by Months

	1936	1935
November	444,724	414,832
October	439,357	422,175
September	453,217	422,114
August	436,617	414,700
July	433,329	415,582
June	393,328	424,411
May	427,195	401,743
April	427,441	382,378
March	418,905	371,900
February	431,236	390,020
January	417,179	405,156

Drilling in Kowait

Kowait Oil Co., Ltd., has proceeded with drilling to 4,326 feet in its No. 1 Bahrah in Kowait, off the northwest shoreline of the Persian Gulf. Dense limestone from almost the surface down has made drilling difficult.

Road building in Venezuelan jungle

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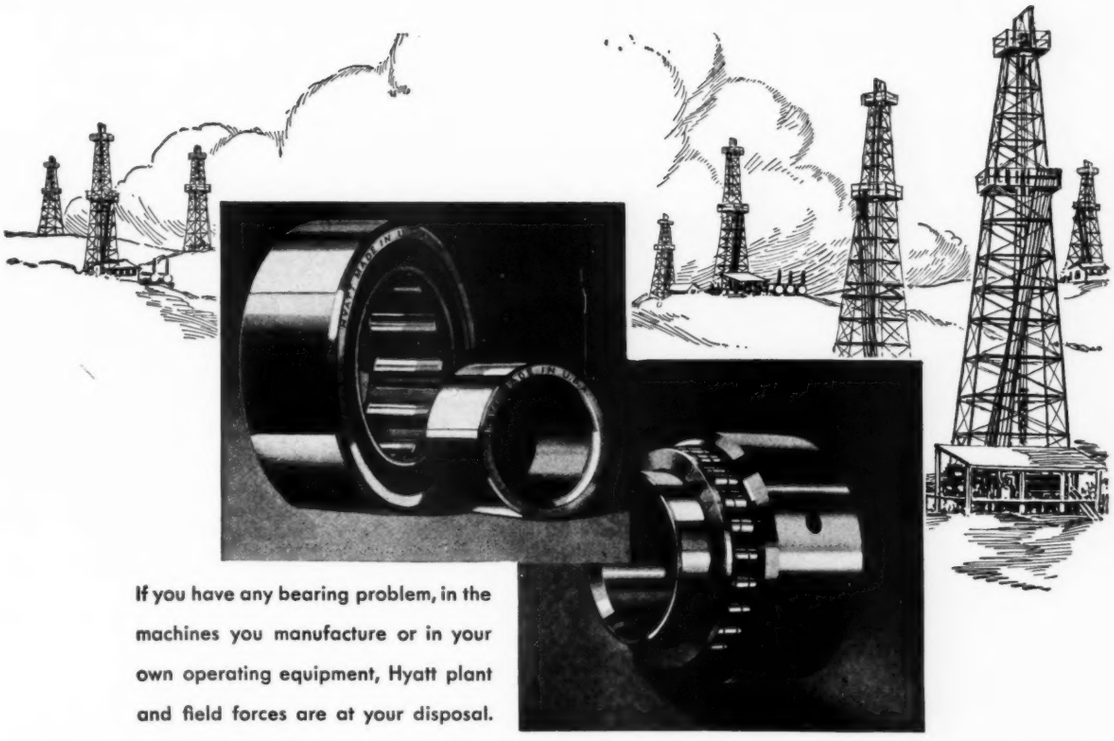

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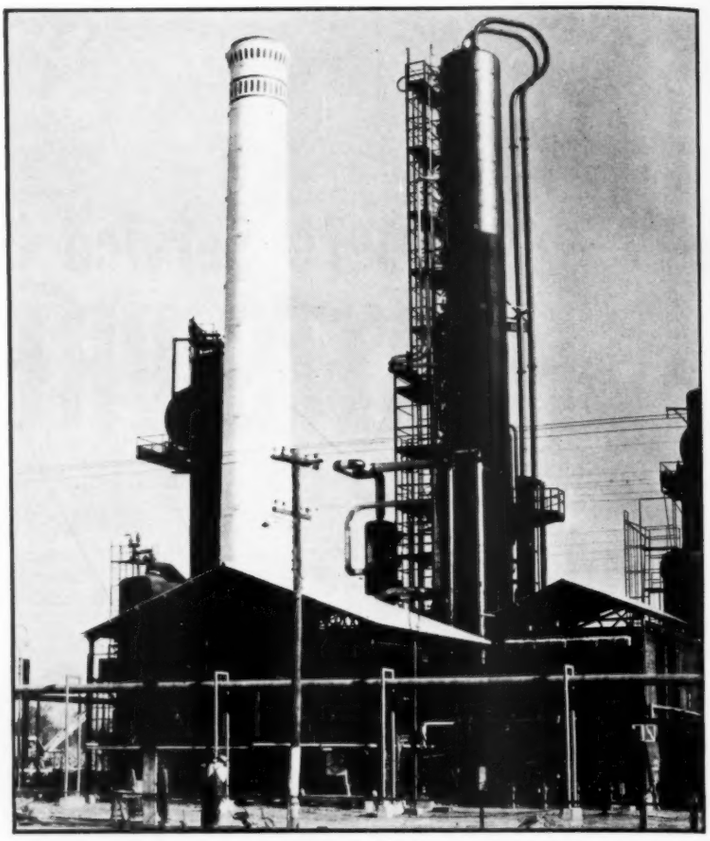
Solvents From East Texas Oil Produced in New Pure Unit

By GEORGE WEBER



The large furnace to the left and the fractionation tower constitute the new 10,000-bbl. unit recently placed on stream at the Pure Oil Co. refinery. Both furnaces are incorporated in the one unit and are separated by an air wall. Note side strippers for reboiling side cuts

A 10,000-bbl. crude distillation unit recently completed at the Smiths Bluff, Tex., refinery of the Pure Oil Co. has been placed on stream and is at present in capacity operation. It is the first new installation to be completed at Smiths Bluff under the current modernization program in progress throughout several Pure refineries. With the exception of supplying charging stocks to cracking units at the refinery, the new system will be operated separately in the manufacture of special naphthas and solvents. In addition, straightrun gasoline, kerosene, gas oil and fuel oil will be refined.

The unit was designed by the Lummus Co. for the extremely close fractionation required in making solvents, allowing at the same time for the flexibility which will be necessary in operation of various crudes. The distillation is carried out in two steps. Primary fractionation removes the light products down to and including kerosene, and the topped crude is further heated and fractionated into gas oil, cracking stock and fuel oil cuts in the second stage.

HEATER DESIGN

The furnace, equipped with economizer is of dual design with separate sections for primary and secondary heating. Nearly all of the heating surface in wall and roof tubes is located in radiant position, with some convection heating in the second row of roof tubes, past which the flue gases leave the furnaces. The two units are fired from both ends, and flue gases pass through a common manifold from the top of the furnaces to the stack. Separate operation of the two heaters contributes to the flexibility with which the plant may be operated.

The main fractionator measures 127 feet in height and 10 feet in diameter, and is divided into two sections. The unusually large size of the main column facilitates sharp fractionation of the charge at full capacity operation. The primary or upper section receives the crude charge from the first furnace and the light ends are removed. Bottoms, or topped crude, from this section is further heated in the No. 2 furnace and is charged to the lower or secondary distillation section. Although the design of the main tower allows for draw-off of close boiling side cuts, still sharper cuts are obtained in the after fractionators or side strippers. Two of these units, one of which is divided into two sections, receive and stop the streams from the main tower producing a very close-cut fraction. These auxiliary columns are used primarily in the manufacture of the solvents.

The first distillation of the crude is carried out at a relatively low temperature with the charge to the section averaging 550° F. Distillation at this temperature precludes danger of over-heating the light fractions, and insures sweet solvent and naphtha cuts.

After the light products are removed in primary distillation, the reduced crude is further heated in the secondary furnace and charged to the lower section of the main fractionator at about 785° F. In the second step, gas oil, cracking stock and fuel oil are separated.

The unit will be employed mainly in processing two crudes—East Texas and Van Zandt. East Texas crude is used in the manufacture of the solvents and naphthas. The accompanying table shows the general plant breakdown of that crude.

The first six cuts representing 45 per cent of the crude charge are taken over in the primary section, and the solvents and naphthas are given a second fractionation in the steam strippers to insure close boiling ranges. A 33 per cent crude cut of gas oil is flashed over in the second section and the remaining 22 per cent is drawn off as fuel oil bottoms.

EAST TEXAS CRUDE

Per cent charge	Product—
.01	Gas
.02	Absorption gasoline
.11	Rubber solvent
.08	V.M.&P. naptha
.10	Stoddard solvent
.10	Kerosene
.33	Gas oil
.22	Fuel oil

VAN ZANDT CRUDE

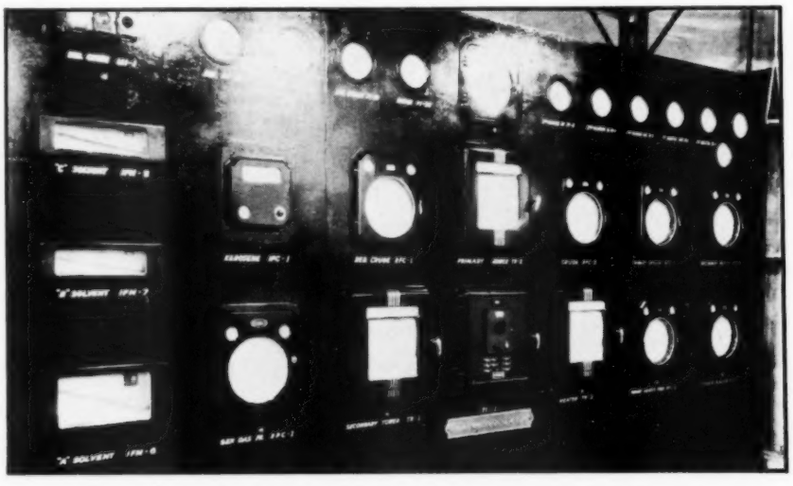
Per cent charge	Product—
.01	Gas
.28	Straightrun gasoline
.10	Kerosene
.39	Cracking stock
.22	Fuel oil

Van Zandt crude is not as suitable as East Texas oil for the manufacture of solvents, and in processing that crude the cuts shown in the accompanying table are taken.

The gas, straightrun gasoline and kerosene topped from the crude in the first step represent 39 per cent of the charge, and a 39 per cent crude is taken off in the second distillation for charging to cracking units.

Both crudes have been run in the new unit, and its flexibility and efficiency have been found satisfactory in making the required specification cuts. Extremely close control is held on the plant's operation by instruments regulating flow, temperature and pressure throughout the system, and one man is employed in its operation. Elec-

(Continued on Page 38)

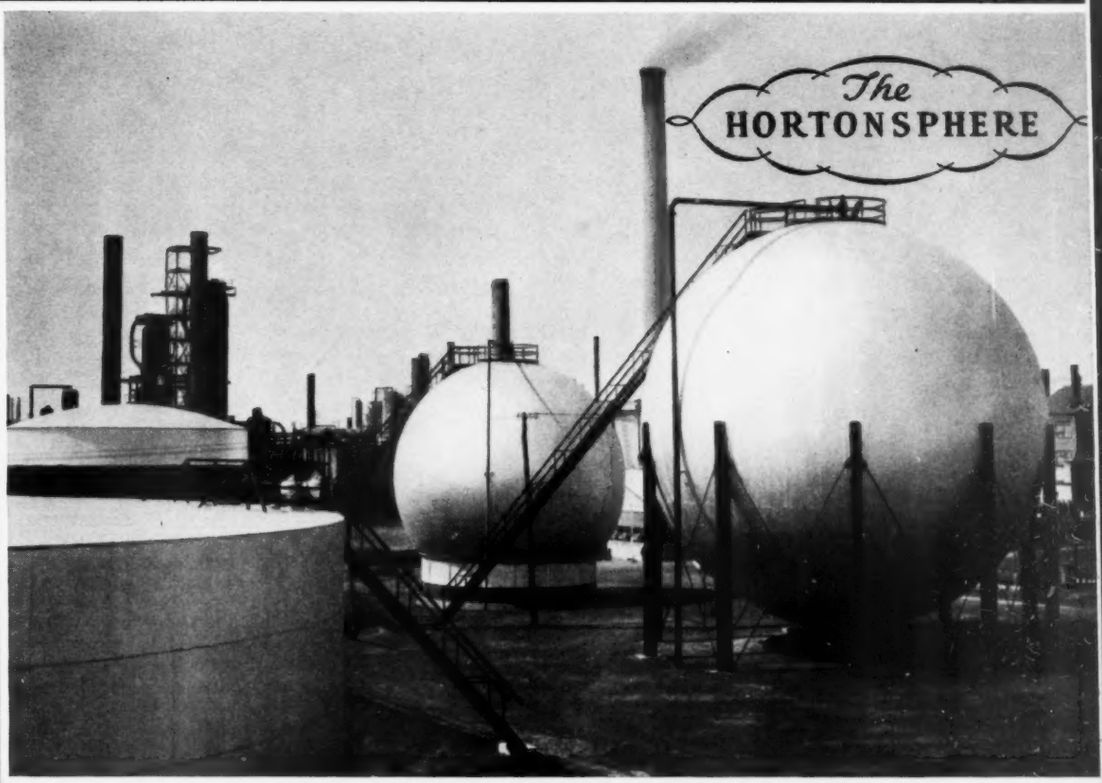


Close control of the unit's operation is held by instruments regulating flow, temperature and pressure throughout the system

Which is right-

STORE SUMMER SURPLUS OF LIGHT *high-octane high-volatility* FRACTIONS FOR WINTER BLENDING . . . . . .

. . . OR BURN SURPLUS LIGHT FRACTIONS FOR FUEL?



WITH many refiners, the question of whether to save light fractions for blending purposes (particularly for winter blending) is elementary. They know that the high-octane high-volatility fractions are much too valuable to use as fuel under boilers, etc.

Unfortunately, there are other gasoline refiners who have not yet realized that the gas they burn up could well be used to raise the rating of their product—with a consequent increase in its market value.

An example of how light fractions can be saved is described at the right. If you are not yet making use of this type of pressure storage, we believe it will pay you to investigate the possibilities. We will be glad to co-operate by supplying you with data on the most economical sizes and types of pressure storage tanks.

THE above picture shows two Hortonspheres located in the Ponca City refinery of the Empire Oil & Refining Co. The one in the center background is of 5,000 bbl. capacity, while the other in the right foreground holds 10,000 bbls. Both are used for storing a recovered refinery gasoline under pressure.

This material is produced by a vapor recovery plant from gases collected from oil storage tanks, crude oil and pressure stills in the refinery. It is particularly volatile, having a Reid vapor pressure of from 20 to 35 pounds absolute at 100 deg. F. and an octane number well over 80. By accumulating this material during the summer when there is a surplus, it is possible to make effective use of it in producing a balanced motor fuel during winter months.

If stored in ordinary tanks at atmospheric pressure as it comes from the recovery plant, the material would vaporize rapidly and the evaporation loss would be tremendous. By storing it in Hortonspheres under pressure, however, virtually all evaporation is prevented. This not only saves a substantial volumetric loss, but also prevents the lowering of octane number and vapor pressure by such evaporation.

The smaller sphere was placed in service in 1932 and was the first all-welded Hortonsphere to be built for this particular purpose. The larger sphere was added this year. Both are designed to operate at a pressure of 50 lbs. gauge. This is somewhat in excess of the pressure required but is considered as good practice for this type of service.

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OIL WELL SUPPLIES

TULSA, OKLAHOMA

Equipment for Treating Ore Is Adapted to Recovery of Oil

By L. G. E. BIGNELL

A plant for separating oil from sand was installed and put in operation near McMurray, Alberta, Canada, early in September and marks another step forward in the art of procuring crude oil. The Athabaska oil sands have been described in many papers and bulletins. They have been termed "tar sands," "asphalt sands" and "bitumen sands." In reality these oil bearing formations are found at or near the surface over a large area in northern Alberta and consist of quartz sand grains covered with a thin film of oil. The oil forms the cementing material between the sand grains. When this oil is removed the sands are as loose as beach sands. Mining is done by removing the overburden with drag-line scrapers and then cutting across the face of the oil bearing sands with "shale planers."

DESCRIPTION OF PROCESS

After several years of research and development work a process of removing the oil film from the sand grains has been perfected and a 250-ton plant installed and put into operation with better results than secured either in the laboratory or experimental plants. The importance of this development to the oil industry lies largely in opening the way to treating oil sands elsewhere and recovering practically all of the remaining oil after production through drilled holes has been completed.

The process for separating the oil from the sand has been developed by J. M. McClave formerly of Denver, Colo., and now chief engineer for Abasand Oils, Ltd., with headquarters in Toronto, Canada. Max W. Ball is president of this company. While it may seem to be a simple matter to remove a film of oil from a grain of sand it has required several years of research to finally perfect a commercial process. This process is briefly described as follows:

As stated the oil forms a film around each sand grain and is also the only cementing material between sand grains. When removed the sand is loose. The film of oil is removed from the sand grains in a body of warm, slightly alkaline water, by agitation in a pug-mill. The water is at a temperature of from 180 to 200° F. and contains about 1 per cent sodium silicate. The oil particles are floated out of the pulp in a quiet-zone flotation cell, a feature of this process developed by Abasand Oils, Ltd., and the oil with some sand is skimmed from the surface of the water by a roller.

The sand and water carried over with the oil in this treatment is then mixed with naphtha or kerosene to make it thin enough to permit the water and sand to settle out in a special settling tank, also developed by Abasand Oils, Ltd., from which the oil is removed continuously from the surface and the sand and water settles to the bottom of the tank and is removed. The sand containing practically no oil is then dewatered in an Akin classifier and discharged as waste.

Separator plant and boiler house for producing oil from bitumen sands

Because of the enormous quantity of oil available from the sand deposits of northern Alberta early attention was directed toward development of a process for removing the oil from the sand grains. These early attempts covered tests by distillation, solution with organic solvents and by digestion with warm water. All of these proposed methods proved unsatisfactory for one or more reasons although promise of developing a successful process was indicated by tests made by several research engineers as early as 1917. Subsequent development using a warm, slightly alkaline solution with moderate abrasion broke the oil film loose from the sand grains but the recovery of this oil was the unsolved problem at that stage of development.

In 1933 a pilot plant was built in Denver. A 6-inch pug-mill was used to wash the oil sand in 180° F. water containing about 0.25 per cent sodium silicate. The resulting pulp was passed through a flotation cell in which all of the oil was floated and skimmed from the surface of the water by revolving rollers. Cleaner cells were used to remove the water and sand content of the oil and the tailings from all of the cells went to a 6-inch Akin classifier for dewatering.

DEVELOPING FLOTATION CELLS

These machines gave good results in removing the oil, but the oil carried over from 20 to 40 per cent, by volume, of the sand. The problem was then to remove the sand from the oil, not the oil from the sand.

This sand was known to float with the oil when there was any agitation in the flotation cells. Mr. Ball then suggested the development of a flotation cell in which there would be a "quiet" zone. The Akin's classifier, which is essentially a screw rotated at the bottom of a trough, was selected and the sides built higher so that a deeper body of water could be maintained over the screw conveyor.

The pulp from the pug-mill was fed into the reconstructed classifier and air was used at the lower end of the cell to force the feed into the cell and add entrained air to the pulp. Experiments soon proved this added air was unnecessary as a gravity feed into the cell carried enough entrained air with the pulp to float all of the oil.

After the added air was cut off the cell worked satisfactorily and the sand content in the oil was cut in half. Added advantages over the regular type flotation cells were lower cost of the equipment, it occupied less space, was free from vibration, consumed about one-sixteenth as much power and had about twice the capacity. It was also found that a complete separation of the sand from the oil could be obtained with 0.1 per cent instead of 0.25 per cent sodium silicate.

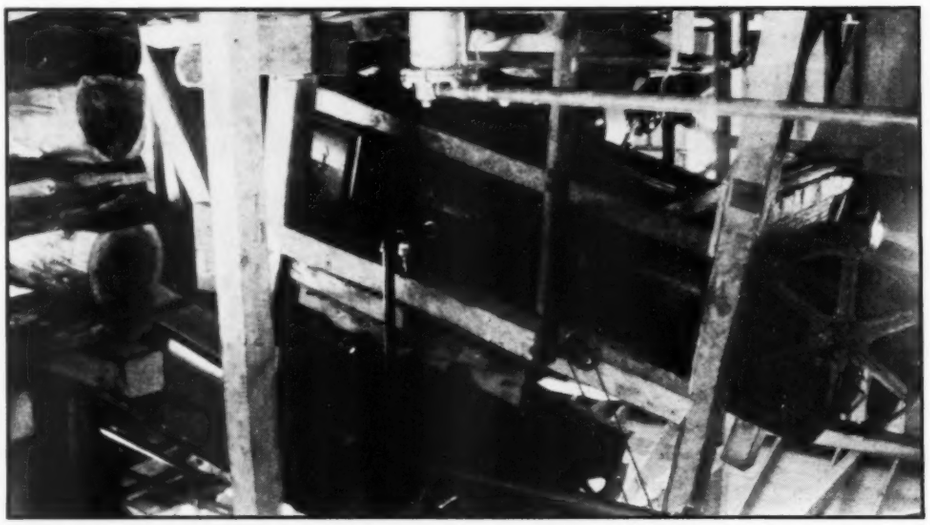
With the improved flotation cell a new flow

All equipment used in the extraction plant had to be dragged over miles of forest roads. Here the boiler is being dragged by tractor

Pulping machine, for crushing the bitumen sands before it passes to the pug-mill, enroute to Abasand Oils, Ltd's. oil extraction plant

sheet was developed consisting of a small pug-mill, a quiet-zone flotation cell, clean-up equipment and a 6-inch Akin classifier for dewatering the tailings. The tailings from this classifier contained less than 0.5 per cent of oil when running on weathered oil sand and practically no oil when operated with fresh mined sand.

The clean-up equipment was found necessary to clean the oil of its sand and water content. Oil from the quiet-zone flotation cell carried from 10 to 30 per cent water and about the same amount of sand. These are above the limits of oil refinery tolerance. The oil was so viscous and heavy, having specific gravity of about 1.02, that neither the sand nor the water readily settled. The oil was also too thick to pump through pipe line between separation plant and refinery.



Equipment used in removing the oil from the sands. At top is the pulper; in the center the pug-mill; and at the lower left, the quiet-zone flotation cell

At this point in the experiment A. J. Smith Engineering Corp. of Kansas City, Mo., was called upon as consultants. After some laboratory research it was recommended the oil be diluted with a petroleum product to be later removed in the refining process. A 300-400 naphtha representing the lower end of the gasoline cut just above the kerosene cut was tried in various proportions. Later kerosene was used and found suitable for cutting the oil.

While the practicability of using kerosene or naphtha to dilute the oil was demonstrated it was necessary to develop equipment to properly mix these thinning agents with the thick oil. This was done by using a vertical feed-pipe containing a revolving blade-shaft, followed by a sand pump, which mixed the two fluids without emulsification. It was also found preferable to run the blade backward to retard the rate of feed. The sand pump was also run backward with the concave side of the vanes forward. The mixture was delivered into a Dorr settling-tank fitted with raking mechanism on the bottom with a two-armed shaft with five scrapers on each arm. The mixed oil and diluent flow into this settling-tank against a baffle through a pipe 6 inches below the surface of the fluid in the tank. The water is drawn off through a connection about 2 inches above the bottom of the settling-tank and the sand is discharged by the rakes through a hole fitted with a valve located at the center of the tank bottom.

USE LONG TROUGH

While these experiments solved the general problem of removing water and sand from the oil it was later realized that instead of a round settling-tank a long trough would be better. The time required for the diluted oil to cross a tank, during which time the water and mineral matter can settle, is not a function of the capacity of the tank divided by the rate of feed, but depends upon the relationship of the rate of feed to the distance across the tank from the inlet to the discharge.

The next step was to develop a rectangular tank, and for the laboratory experiment the first tank built was 36 inches long, 4½ inches wide and 24 inches deep with round bottom. Six inches from the intake end a baffle extends from the top, half way to the bottom. The feed passes into the tank through a 2-inch vertical pipe with its outlet about 12 inches above the bottom. In the bottom is a shaft 24 inches long and three-quarter inches in diameter on which blades 1 inch long are set at an angle of 45 degrees to the shaft and at 1-inch intervals, in pairs; each pair rotated 90 degrees from the next pair. This shaft moves the settled sand to the outlet, stirring it meanwhile so that any oil particles may escape. The sand is discharged through a 1¼-inch sugar-type sand-valve, which is opened intermittently, no valve being obtainable small enough to permit continuous discharge of so small an amount of sand. The water is taken out through a three-eighth-inch water tap located 6 inches above the bottom of the tank at the discharge end. Both sand and water carried appreciable amounts of oil and were fed back to the pug-mill. There seemed to be no tendency for such material to increase with continuous running. The oil discharged continuously through a pipe set 3 inches below the top of the tank. The cleaned oil contains from 1 to 1½ per cent water and about one-half per cent mineral matter; well within the pipe line and refinery tolerance. The mineral matter is mostly fine clay and has no abrasive effect.

COMMERCIAL PLANT

After this process had been perfected in the laboratory a full-size plant with a rated capacity of 250 tons of sand per day was built and shipped to McMurray, Alberta. This plant was erected and put into operation early in September and the first runs were highly satisfactory. A refinery is to be erected near the plant to handle the oil and it is hoped by next spring to have both units in full operation.

Oil flowing from spring in the Athabaska oil sands near Fort McMurray, Canada

To operate the 250-ton plant two 80-horsepower oil-country type boilers operating at a pressure of 150 pounds and a 75-horsepower steam engine have been installed. Water is secured from the Horse River close to the plant and pumped by 6-inch by 4-inch by 6-inch horizontal duplex steam-driven pump to a 200 bbl. storage tank.

The sands contain as high as 25 per cent by volume of oil. The average content of the sands treated in the mill is about 14.7 per cent and the oil recovered equals about 12½ per cent by volume. This is about 250 pounds of oil or approximately eight-tenths of a barrel per ton of sand.

This process has many possibilities of application to the washing of oil sands to recover the remaining oil left after production through drilled wells has reached the economic limit. Sands containing 300 bbls. of oil per acre foot average as high as the average oil sand to be treated in Canada. This process might be combined with a mining method and result in the recovery of practically all of the remaining oil left in the sand reservoir whereas the present secondary water-flooding recovery method is only obtaining from 40 to 60 per cent of the oil left after production by wells has ceased.

It is proposed to build a plant to separate the oil from the sands in a chamber dug under ground in the sand area near McMurray, Canada, to facilitate handling some of the sands covered by thick overburden. If done this will point the way to the placing of this machinery for treating the oil sands underground in the oil fields. The cleaned sand and other waste material will make ideal back fill and the mining method can be perfected; based upon handling large volume of sand. Costs will not be excessive and when the industry actually needs all the oil in the old fields serious consideration will be given to underground mining and treating of the oil sands.

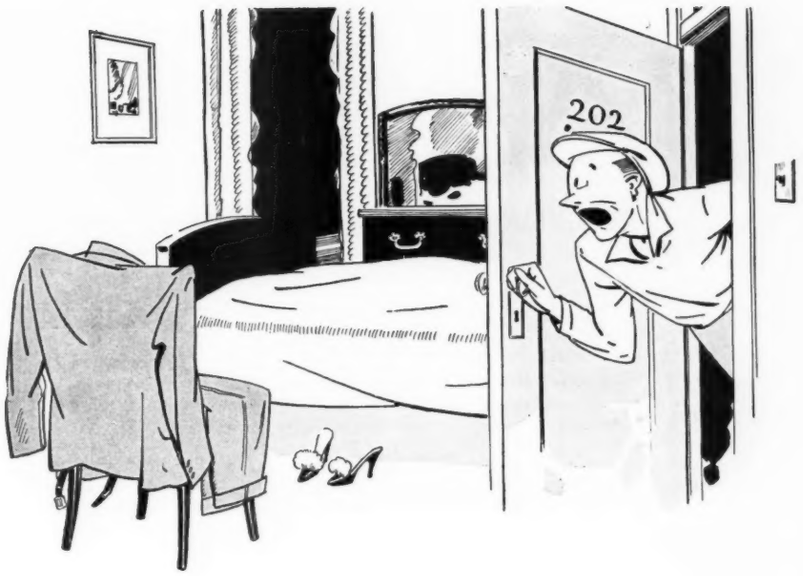
Solvents From East Texas Oil Produced in New Pure Unit

(Continued from Page 34)

trically-driven centrifugal pumps handle all streams in the plant with the usual steam reciprocating pumps installed as standbys.

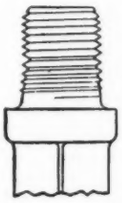
As soon as the new fractionation units were completed, work was begun on foundations for the new 11,000- to 14,000-bbl. combination skimming and cracking unit also designed by the Lummus Co. Due to the location of the refinery on an elevated section of land, foundations are laid without the need of piling, and the groundwater level, despite proximity to the company's terminal on the Neches River, is well below excavation depths. This condition greatly simplified construction problems at Smiths Bluff.

Operation of the combination unit, like that of the fractionation unit, will be carried out independent of other runs in the plant, greatly increasing the flexibility of operations in the refinery. The completion of the latest addition will increase the crude capacity of the refinery to 50,000 bbls. per day, placing it among the major plants along the Gulf Coast.

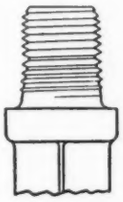


"Number ten's got another rod break!"

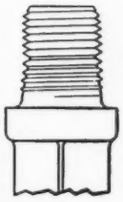
Rod breaks are at the least, inconvenient, but like taxes, are probably with us always. Axelson doesn't claim that with the installation of its rods, breaks will absolutely cease. Experience has proven, however, that the selection of the right Axelson rod for the job reduces pumping troubles and operating expenses. The majority of Axelson engineers, production men and representatives have devoted the greatest portion of their lives to the oil production equipment business. Out of this background of experience, of constant contact with the industry, there have been developed three different grades of Sucker Rods. These rods differ not merely in price and physical strength, but most important in chemical characteristics as well. It is on this point that Axelson feels IT IS PIONEERING NEW TRENDS IN SUCKER ROD MANUFACTURE AND STANDARDIZATION. One of these three rods is ideally suited to the pumping conditions of your wells. Read the brief technical description of each rod. Any Axelson representative will consult with you as to which rod should GIVE LONGEST SERVICE AT LOWEST COST.



Axelson No. 60 Sucker Rods are made from exceptionally high grade carbon steel under strict alloy practice. They are fully tempered from end to end assuring consistent physical properties. The ductility and impact resistant properties of these rods is such as to indicate their practical use for all average to heavy pumping conditions.



Axelson No. 59S Sucker Rods made of special alloy steel that materially aids their resistance to corrosion, are fully normalized and tempered from end to end. They present excellent physical properties, combining increased ductility and impact resistance with high yield and tensile strengths. They are desirable for pumping wells where extra heavy loads are encountered and where irregularities in pumping movements are unavoidable.



Axelson No. 69 Sucker Rods are made from a high alloy special nickel molybdennum steel produced in electric furnaces. These rods are especially resistant to corrosion, are fully normalized and tempered from end to end. They offer excellent yield and tensile strengths, with great ductility and impact resistant properties.

Axelson Manufacturing Company, P. O. Box 710, Vernon Station, Los Angeles • St. Louis • 50 Church Street, New York • Tulsa
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DEEP WELL PLUNGER PUMPS **AXELSON** SUCKER RODS

Progress in METALS

By W. L. NELSON
Metallurgical Editor

Steel Book for Engineers or Purchasing Agents

The recent book, "Engineering Alloys," by Woldman and Dornblatt, published in 1936 by the American Society for Metals, 7016 Euclid Avenue, Cleveland, Ohio, is a most useful addition to our plant books. It differs vitally from most books on steel—it deals purely with uses and the classification of steels rather than theoretical considerations.

The properties, uses, and compositions of 8,206 steels are given in 305 pages of closely tabulated material. The remaining pages of the 622-page book are devoted to methods of classifying steels.

1. Alphabetical listing of 8,206 alloys, 88 pages.
2. Names, properties and uses, 305 pages.
3. Classification according to uses, 51 pages.
4. Alloys by each manufacturer, 74 pages.
5. Index of manufacturers, 16 pages.
6. Corrosion and heat resistance, 6 pages.

There is no longer need for confusion over the multitude of trade names because all 8,206 of them are listed in a logical manner. Most metal books are for metallurgists or steel manufacturers—this book is for users of steel.

Stainless Steel in Laboratory

The general corrosion resistance of stainless steel makes it an admirable material for the construction of laboratory furniture and equipment. It is resistant to oxidation, the action of most acids in concentrated form, to laboratory fumes, and in general, most common corrosive agents.

An example of its use is the new analytical laboratory of the River Rouge plant of the Ford Motor Co. Stainless steel of the 18-8 chrome nickel type was used extensively as a covering for desks, tables, hoods, laboratory heat-treating furnaces, and even the walls. After more than five months of service there is little evidence of tarnishing, even on the outside of the furnaces which reach a temperature considerably above room temperature. The material was used mainly in the form of sheet, although all of the pipe fixtures such as outlets for gas, air, vacuum, and hot, cold, distilled and ice water were also constructed of stainless steel.

A laboratory outfitted in this manner makes a most pleasing appearance and is far removed from the dingy corners that are sometimes relegated to this service. Many managements feel that the precise attitude of a true scientist cannot be fostered in an unkept or rusty laboratory and the advent of stainless steel in this new service is one method of providing a suitable environment for scientific precision.

The great strength of stainless steel permits the use of a relatively thin sheet provided it is backed by a solid material and firmly fastened in place. Recent improvements in the art of welding stainless steel makes it possible to do a neat job of sheathing. Table tops and surfaces that must sustain some weight may be constructed of one-sixteenth inch sheet.

Metallurgical Terms—Annealing

The most general usage of the term "annealing" refers to an operation by which a steel is heated to an elevated temperature and cooled slowly to room temperature. The cooling is conducted so slowly that any changes which tend to take place during cooling have ample time to take place and hence no further changes will occur with time. The size of the piece greatly influences the rate of cooling and hence small parts such as slender rods must be cooled in a furnace whereas larger pieces may be cooled in air or in so-called soaking pits.

Annealing generally results in a softer more ductile material, at least this is true of steels, and hence it is frequently used to soften a piece of metal so that it can be worked by hammering or rolling without breaking the piece. Thus, copper or steel wire is fabricated by drawing a rod of the material through a series of smaller and smaller dies.

Another purpose of annealing is to produce small firm grains or particles of metal. If steel is heated for a long period of time at a high temperature, such as is practiced during forging, the grains or particles of material grow larger and larger resulting in a decrease in strength and a tendency to brittleness. Annealing of steels eliminates this coarse grain structure and refines the grains to a smaller more uniform size.

Figure 1 indicates the effect of annealing temperature on the properties of a 0.35 carbon steel.

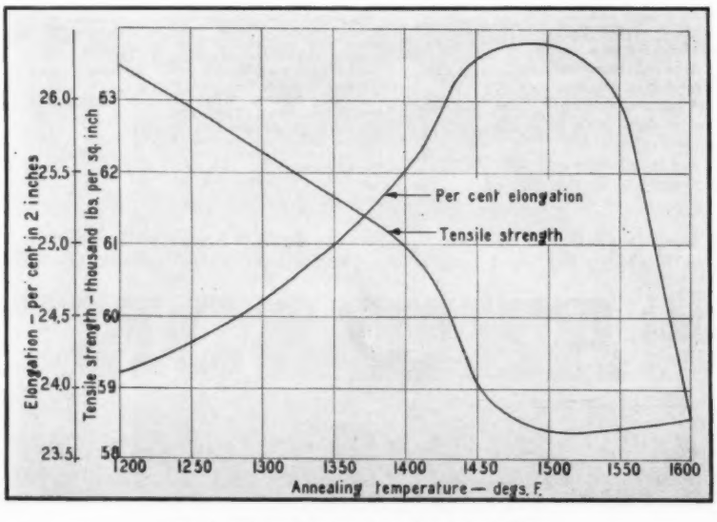


Fig. 1—Characteristics of steel after annealing

Silicon Surface Prevents Corrosion of Steel

A method of encasing steel and malleable iron in a shell of high silicon content has been developed by the Globe Steel Tubes Co. of Milwaukee. The case which contains about 14 per cent of silicon, is very hard, it resists abrasive wear, corrosive action, and high temperature oxidation as encountered in furnaces. The process of treatment is referred to by the company as Ihrigizing.

The excellent corrosion resistant properties of Duriron are unquestioned and the process of Ihrigizing provides a surface that has properties similar to Duriron. However, the general weakness and brittleness of the high silica irons are not serious disadvantages in Ihrigized parts because the weak silica case is backed by a relatively strong and tough core of steel or malleable iron. Although the case is not as ductile as the core, the ductility of the case permits the rolling of tubes into headers by employing special rolling methods.

The surface is so hard that it cannot be cut with a hacksaw and hence the parts can be finished only by grinding or polishing. However, intricate shapes can be produced with ease because the production of the silica surface is the last step in the manufacture of the piece. The material is particularly suited for pump liners, rods, and shafts, because of the combined properties of wear resistance, corrosion, and strength. These services are particularly troublesome because the protective film that is produced by the corrosion resistant material is continually worn off by wear.

Protected malleable iron tee

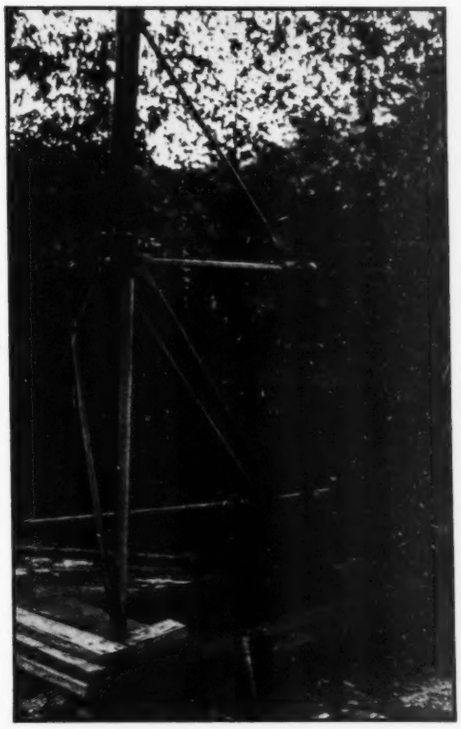
The Globe company recommends steel and malleable iron as the base material. Grey cast iron is unsuitable because excessive swelling occurs during the treatment. The extensive field of application includes valves, fittings, cylinder liners, pump rods and shafts, gears, pistons, conveyor links, thermocouple tubes, nuts, bolts, screws, and castings to be used in furnaces up to a temperature of 1,800° F.

Petroleum services that suggest themselves include: (1) valves, fittings, and bends subject to corrosion or combined corrosion and erosion; (2) lines for pumps for handling corrosive agents; (3) pump plungers in both production and refining; (4) tubes in stills, particularly if the sulfur is high or if erosive agents, such as lime are employed; (5) tube supports in stills; (6) acid and sludge lines and connections and (7) high-temperature high-pressure valves.

Bulletin 102 of the Globe company describes this process as it is used in the plant in the preparation of the various metal parts used in oil fields and refineries.

Vacuum Plants Discourage Repressuring in Kentucky

By T. P. SANDERS



Typical pumping jack in Kentucky. The 2-inch line on the casing head carries a vacuum of 23 inches of mercury

Because the typical oil pool in Kentucky is divided among many small lease-owners, and vacuum systems are used on most leases, repressuring operations cannot be readily undertaken by producers wishing to bring about greater recovery from their properties. Few, if any, operators are willing to undertake repressuring of a small lease when wells on surrounding leases are being subjected to vacuum, which may cause them to derive most of the benefit of the expenditure. Sometimes a vacuum plant is installed on an adjoining lease after repressuring operations have been started. In this case the operator of the repressuring lease applies a vacuum to his edge wells in an attempt to offset the effect of reduced pressure on the neighboring property. It is likely that vacuum on wells bordering a lease being repressured has less effect than is generally feared, since most data obtained in recent years has tended to show that oil does not travel readily or for any great distance in a reservoir. However, it is quite evident that the expansive force of gas tending to move the oil will be continually dissipated in the direction of the low-pressure area.

It is unfortunate that the antiquated method of secondary recovery which calls for pulling a vacuum on casingheads of wells should prevent the use of the more modern repressuring. It is almost universally agreed that repressuring is in every way an improvement. The application of vacuum has often accounted for large increases in production. This is accomplished, however, by destroying the natural reservoir pressure, while the increase resulting from repressuring is caused by increasing the average reservoir pressure. Some experienced repressuring operators in western Kentucky contend that the increase in recovery due to repressuring averages from two to three times greater than that resulting from application of vacuum. The properties of the Ohio Oil Co. in the Plymouth-Colmar fields in western Illinois give an excellent comparison between vacuum and repressuring. The field was discovered in 1914, and by 1926 the production from the properties of the Ohio Oil Co. had declined to 850 bbls. weekly. Vacuum was applied to the wells in May of that year. The resulting increase to 1,500 bbls. weekly, averaged over a period of one year, was considered sufficient justification to keep the vacuum system in operation for nine years. As would be expected, the rate of production decline after application of vacuum was greater than it had been before. In 1934 and 1935 repressuring operations were commenced, using an input pressure of only 60 to 70 pounds. This raised the weekly production to a peak of 3,700 bbls.

EFFECTS OF REPRESSURING

In one of these fields the vacuum systems were shut down as soon as repressuring was commenced, resulting in a drop in production which was overcome shortly by the effects of repressuring. In the other field the vacuum was gradually decreased as the repressuring was started. This, however, resulted in serious by-passing, since the input gas was drawn too rapidly toward the producing wells. M. H. Flood of the Ohio Oil Co. at Robinson, Ill., who has directed the operation of this field, said at a meeting of the Kentucky Oil and Gas Association at Lexington, May 1, 1936: "Expressing a personal opinion, vacuum in any form is detrimental to all other secondary methods of recovery. In the case of the Plymouth repressuring project, it is my opinion that had they never placed vacuum on the area, but applied some other type of secondary method of recovery, a higher per acre yield would have resulted with a much extended life to the pool." In most fields where both vacuum and repressuring have been used, the same conclusions have been reached concerning the value of vacuum.

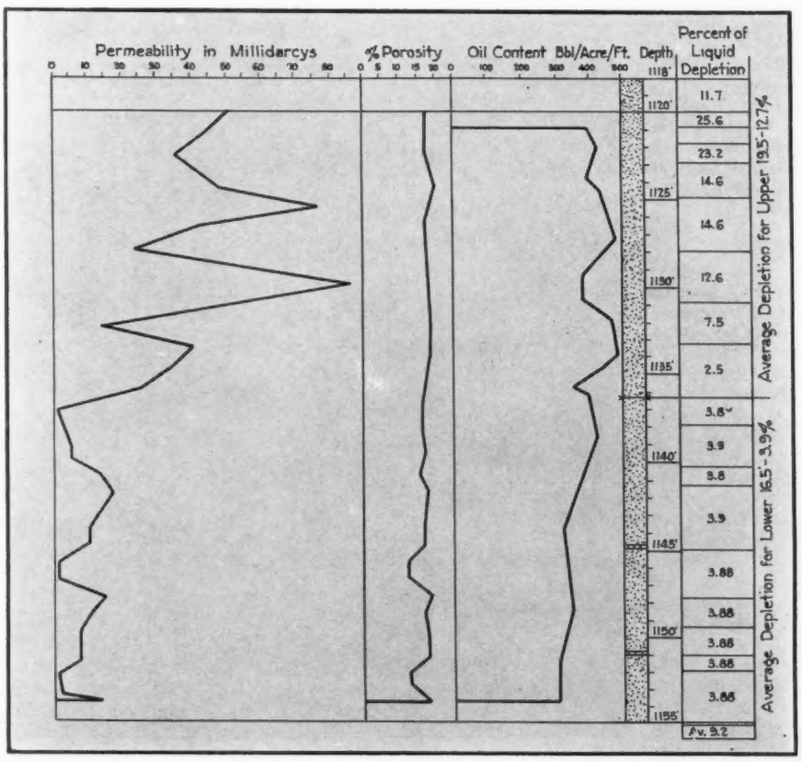


Chart showing the per cent of depletion of each of the individual reservoir units at the end of the period of primary recovery on the P.M.G. tract, Lee County, Kentucky. The core analyzed is from P.M.G. well No. 421

Satisfactory repressuring in most of the Kentucky pools and other similar pools will probably require unit operation, because of the great division of ownership. Repressuring operations can be carried on on a large scale with a much lower cost per barrel of oil recovered than if undertaken on a small scale.

There are some Kentucky repressuring projects where a vacuum is used on the casinghead of all producing wells. These should be classified as recycling projects, as the vacuum does not allow any pressure to build up within the producing formation. It is generally believed in this case that the vacuum is more harmful than beneficial, because it tends to extract the light ends from the oil in the reservoir, making its movement more difficult. Also the refrigerating action of the expanding gas across the face of the pay may cause paraffin deposition which will keep oil from entering the hole. Then, too, the same differential pressure between the input well

and the producing well could be obtained by discontinuing the vacuum and raising the input pressure from 5 to 10 pounds. However, it appears that all of these recycling projects use vacuum only because it is considered necessary for competing against neighboring operators who use vacuum.

REPRESSURING IN KENTUCKY

Repressuring is proving successful in the Big Sinking field of Lee County, Kentucky. Here, as in most Kentucky pools, several pays are present which are not continuous. Records concerning them are poor, since the field was drilled up before the importance of logs was realized. The producing horizon is the Corniferous, part of which has recently been classed as a sand rather than a lime since it is over 50 per cent silica with the calcium carbonate present acting as cementing and coating material. Due to the variable sand conditions in

Vacuum plant in operation in the Big Sinking field of Lee County, Kentucky. Few oil fields are situated in as rugged country

the three separate pay zones, the setting of packers is important, and great care is taken to locate them properly. The Collins Oil Co. operating in this field has devised a method of setting packers which simplifies the task.

Instead of depending on the slips of the packer to engage the wall and applying the weight of the tubing to expand the rubber, they use a string of junk sucker-rods inside of the tubing to apply the force for expanding the rubber. When the packer is at the proper position, all that is necessary is to put a tension on the rods to set it. Usually enough stress is put on the rods to pick up the tubing slightly. A stuffing box is used to pack-off between the tubing and the rods at the surface, so that the gas forced down the tubing cannot escape. The rods are clamped at the top in tension.

BIG SINKING FIELD

Records in the Big Sinking field show production has been determined largely by well spacing. A lease with a spacing of .9 acre per well produced 17,500 bbls. per acre, while an adjoining lease with 2.9 acres per well only produced 6,934 bbls. per acre. The character of the pay could not have contributed materially to this difference, and production curves indicate that the additional recovery per acre did not come from neighboring properties. It is concluded that the closer spacing permitted the productive strata of low permeability, which comprise most of the three pay zones of the pool, to act more efficiently in giving up their oil. In repressuring, these low permeable strata should be attacked if secondary recovery is to reduce the oil content of the pay zone to any great extent. However, gas introduced into the pay will follow highly permeable streaks and leave the tight zones with virtually all of their oil. This is the case in most fields, though the difference in recovery from close and wide spacing is generally less pronounced.

W. E. Lang of the Collins Oil Co. has made an extensive study of repressuring, both in the field and in the laboratory. He has reached the conclusion that oil-content tests made on cores are misleading because they give a per cent saturation figure which is far too low. They often show that only 60 to 70 per cent of the original oil remains in the reservoir after the period of primary production. Experimental work, however, indicates that if saturation had been reduced this low before the advent of repressuring, the subsequent movement of oil would be accompanied by more by-passing than is experienced at the opening of repressuring programs. "Production of Oil by Gas Drive," by Dr. G. L. Hassler, The Oil and Gas Journal, June 11, 1936.) Also, it seems reasonable to believe that in an untapped sandstone reservoir, all the porous strata above the water level are saturated with oil, unless there is a gas cap: in which case all of the free gas is in the gas cap. Of course gas is formed from liquid in solution in the oil as the pressure is reduced, but initially no gas should occur in the oil zone. If this assumption is subscribed to then it is found that the oil, gas and water produced from pools where data is available, cannot account for the depletion shown by a core analysis taken after the primary period of production.

RATE OF DEPLETION

Mr. Lang has compiled figures for a lease (P. M. G. tract) producing from the sandstone pay in Lee county, Kentucky. These show that the depletion at the end of the primary period was only 9.2 per cent. This means that at the time it became necessary to repressure, only 9.2 per cent of the original oil in the sandstone had been recovered. The accompanying chart shows the results of the study, the methods and calculations being omitted. The 36 feet of sand cored was divided into 17 units, and the individual action of each unit was analyzed to determine to what part of the total production it contributed.

These quantities cannot be calculated with great accuracy, but the division of the total production is sufficiently true to give a clear comparison between the action of the units of high and low permeability. The chart shows that the lower 16½ feet of the pay, which is made up of sand of low permeability, gave up only about 3.9 per cent of its oil. Repressuring would call for setting a packer at the top of this zone and using a higher injection-pressure on it than on the upper part of the pay. According to method used in determining the recovery shown on the chart, however, repressuring will appear to be of insignificant value: because what would be termed good repressuring results would probably mean that an additional 1 or 2 per cent of the original oil in the reservoir has been recovered. This, of course, does not mean that repressuring is not worth while. It merely indicates that there is much room for improvement.

Testing of Diesel Fuels

A bulletin on the ignition quality of diesel fuels and means by which it may be determined has been recently published by the Pennsylvania State College under the title, "The Development of Diesel Fuel Testing." The publication, written by T. P. Hetzel of Pennsylvania State College, discusses various methods, such as bomb tests, chemical and physico-chemical tests and engine tests. It also describes the "Fixed Ignition Lag Method," a new apparatus and technique for diesel fuel testing developed by the engineering experiment station of the college.

By this procedure all fuels are injected at the same advance angle and the compression ratio adjusted so that ignition point is at top center. The compression ratio so determined is used to compare the ignition quality of fuel samples with that of reference fuel blends. The method has proved to be quick, accurate and dependable, well suited for the routine testing of diesel fuels. Results of tests on a wide range of diesel fuels are reported.

The main topics discussed are: The Development of Diesel Fuel Testing, the Fixed Ignition Lag Method, and Experimental Investigations. There are some 60 pages in the bulletin as well as a valuable list of references to literature on testing of diesel fuels.

The report, listed as Bulletin No. 45, may be obtained for 50 cents from the Engineering Experiment Station, Pennsylvania State College, State College, Pa.

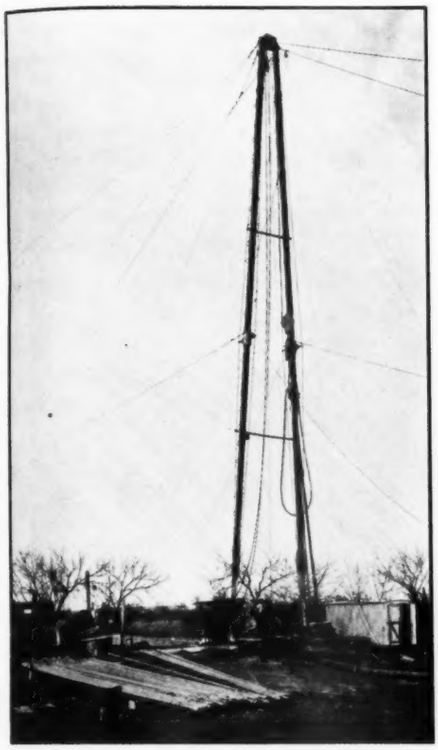
Toronto Distributing Chain

TORONTO, Ontario, Dec. 14.—Joy Oil Co., Ltd., is planning establishment of a chain of 20 service stations in the Toronto area, involving an outlay of over $500,000. The company is affiliated with St. Lawrence Service Stations, Ltd., which operates 11 stations in Montreal and backed by Sunny Service Oil Co. of Detroit. Petroleum products will be brought in by tankers.

LIQUID METER USED TO GAUGE OIL FLOW FROM LEASES

The accompanying photograph illustrates one practice that is becoming more popular in the oil industry; that is the installation of liquid metering devices to eliminate the necessity of gauging. The meter shown here is in use at a gathering station in the Geneseo field, Kansas. The meter registers the oil received from each lease, the tank shown being used only as a work tank.

OPERATING IDEAS

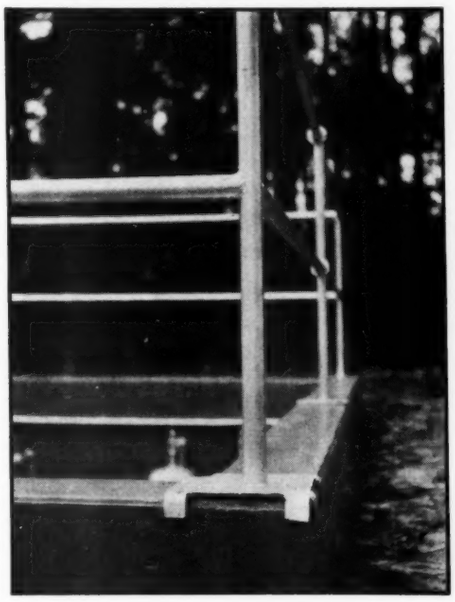


Rotary Drilling With Mast

To reduce the time required for erecting and dismantling a derrick and to lessen the amount invested in drilling equipment, one drilling contractor operating near Wewoka, Okla., is using a 90-foot mast in place of a derrick. The rig is powered by gas engines and when making a trip the drill-pipe it laid down. The operator has finished two wells with this equipment at a total depth of 1,700 feet, and when this photograph was taken was drilling the rathole for the third. Only six or seven days were required to complete the two wells. Other advantages to be gained by the use of such equipment in shallow drilling are portability and the savings made, both in time and expense, by not having to build concrete derrick foundations.

Portable Guard Rails

Permanent guard rails installed around concrete pits containing machinery which must be removed or serviced occasionally often have to be torn up, and require complete replacement at considerable additional expense. One operator in the Rodessa field has overcome this by the use of portable railings, resting on fitted iron-caps at each corner and reinforced points in the center. The accompanying picture shows the corner of a guard rail on a 24- by 24-foot pit. The entire railing can be quickly removed or replaced if the machinery needs repairing.

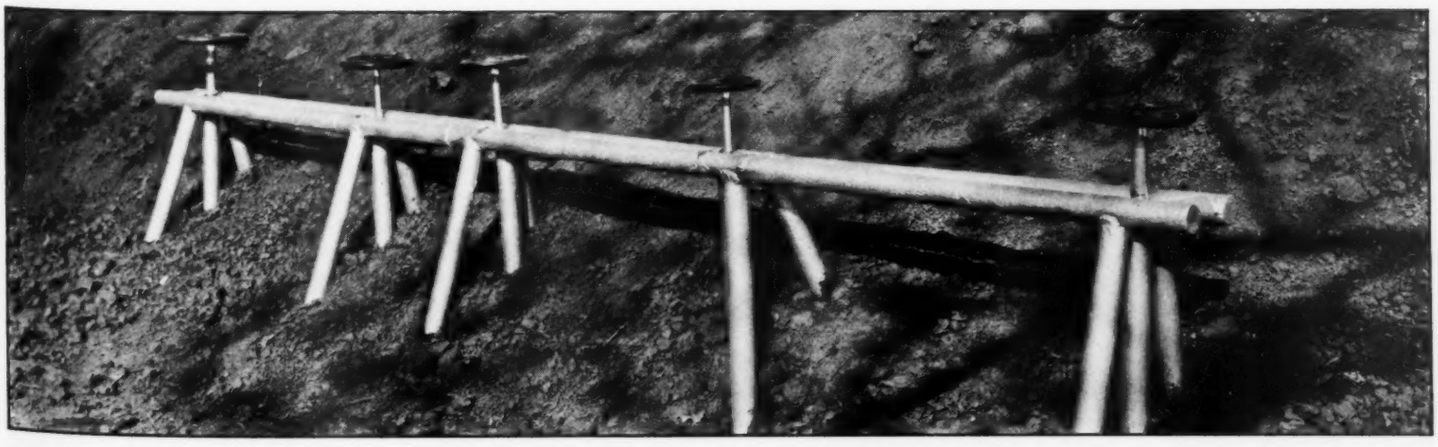


Improvised Rod-Holddown

To reduce the cost of operating its pumping equipment, one company has installed home-made rod-holddowns on its lease in North Central Texas. The holddown consists of a wooden wheel, rotating in journal boxes mounted on two pipes set in concrete. Thus the rod is held down to the desired height with a minimum amount of friction since the wheel is free to rotate as the rod moves.

GUARD FOR PROTECTING VALVE-STEM EXTENSIONS AT GATHERING STATION

To protect valve-stem extensions at a pipe line gathering station, one pipe line company has devised the novel guard shown here. The extensions are necessary because the valves are located underground at a point where they are covered by dirt piled up to form a dike for protection against floods. The guard is made by welding 2-inch pipe. Each valve-stem passes through a perforated plate welded to the upper part of the guard; this plate steadying and stiffening the stem. In some instances a bushing serves the same purpose as the plate.



Amerada Sets Long String of Casing in Wyoming

By ROBERT INGRAM

What is reputed to be the heaviest string of casing ever successfully run in the Rocky Mountain area has just been cemented, developments here have been largely confined to horizons encountered at shallow depths. At 3:30 a.m., December 4, exactly 16½ hours after the pipe was started in the hole, crews of the Noble Drilling Co. made up the last joint in 7,075 feet of 11¾-inch casing in the Amerada Petroleum Corp. No. 1 James Morton, 8 miles west of Cheyenne, Wyo. The weight of the pipe was 61 pounds per foot, and 7,075 feet, which includes the overlapping

Ready for the cement job

of the threads, amounts to a total weight of 431,575 pounds, or more than 215¾ tons.

Officials of many of the major oil companies in the mountain region visited at the well to watch the running of the pipe.

H. M. Cooley, field engineer for the National Tube Co., stayed in Cheyenne for three weeks making plans for the job and studying conditions. Also on hand to watch the operation were Marion Tate, district drilling superintendent for the Noble Drilling Co., John Burline, production superintendent for the Amerada, and P. H. Shepherd, district manager for the Oil Well Supply Co. Elevators and a new type spider were shipped from Texas for this job, and every detail to insure the success of running the pipe was carefully worked out several days before the hole was reamed.

The No. 1 Morton, C SW SW section 13-13n-68w, is the first operation of the Amerada in the Rocky Mountains, and the proposed depth of around 9,000 feet will be a record in this region. The hole, bottomed at 7,050 feet, is believed to be now in the lower part of the Hygiene series. However, a dependable marker in the formations has not yet been reached, and it is impossible to estimate at what depth likely horizons will be found. Operators are prepared to go as far as 12,000 feet if necessary.

By setting 11¾-inch pipe, a 10⅝-inch hole can be carried below it, and operators can set another string of 9-inch casing made up with special high tensile thin couplings.

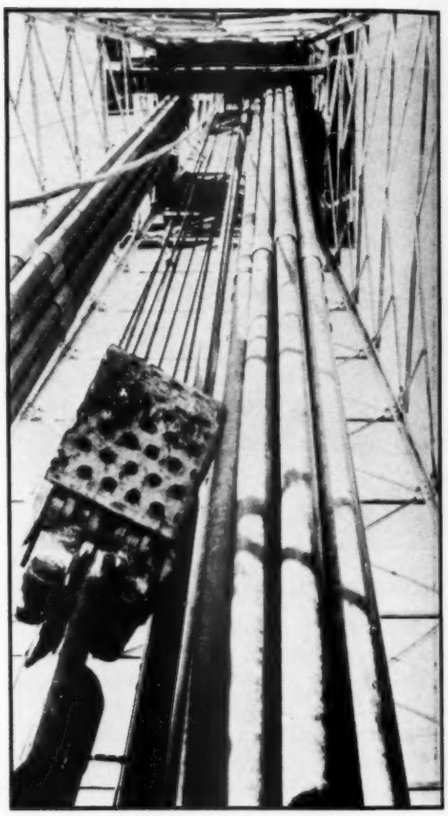
The present string is the third set in the No. 1 Morton. On August 14, two days after the hole was started, 104 feet of 24-inch surface pipe were set. August 21, 621 feet of 16-inch, 65-pound grade C seamless, was run and cemented. Open hole was carried from there on down to 7,050 feet with 11-inch bits on November 7, and was reamed out to 15 inches by December 2. The hole stood up in excellent shape, the only trouble with caving being noticed while drilling at about 6,400 feet. This caving mudded up easily, and operators claimed they had no trouble at any time making trips.

Special long couplings were used. Although the joints averaged 42 feet in length and weighed considerably over a ton each, every one was stabbed quickly, and the pipe was run into the hole without delays. It was filled with mud at about every 400 feet. By 3:30 o'clock the next morning, the entire string was in the hole and circulating.

After circulating 30 minutes, 2,500 sacks of special Uniflow cement were run. Pumps on the cement trucks were held down to 2,000 pounds pressure. It was calculated that this amount of cement would fill the annular space in the hole to 5,700 feet, but experience in the mountain region has shown that cement will usually rise about 30 per cent less than the height calculated.

Wall thickness of the casing, grade D seamless, is 0.489 inches, giving a safety factor of collapse at this depth of 1.1, and a safety factor in tension of 2.2. The amount of cement run is sufficient to protect the pipe from collapse even if it should be pumped dry. Engineers calculated that the weight of the pipe caused it to stretch 28 inches, hanging in mud. Hanging in air, it would stretch 34 inches. An average increase in temperature of 75 degrees in the hole from that on the surface expanded the pipe an additional 36 inches.

The casing was not landed on bottom, but was cemented about 25 feet up, as operators were afraid they might encounter trouble with a little ragged hole at the bottom, or might even get the pipe stuck in the pilot hole.

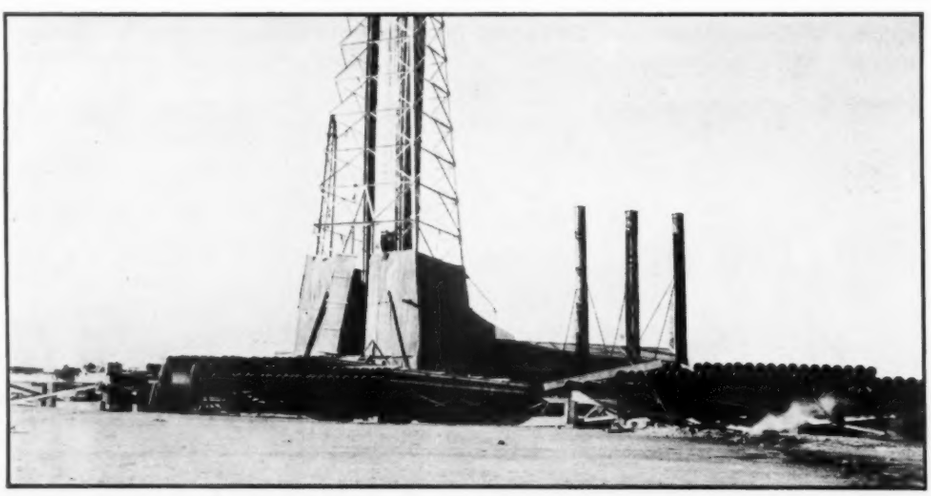


Drill pipe standing in derrick

The rig has been used on only one hole before this, in Oklahoma. It consists of a heavy-duty drawworks, a 14½ by 7½ by 18 power pump run off a three-cylinder upright steam engine, and a large steam pump. The boilers are 175 horsepower with all automatic controls. Drawworks and rotary are powered by a 12 by 12 oil bath steam engine.

The derrick is 122 feet high, and rests on a concrete mat under the 10-foot steel substructure. The cellar is 26 feet deep, and was constructed round to give the greatest strength to the walls.

The plug will be drilled soon and the hole carried on down.



More than 7,200 feet of casing for Amerada No. 1 Morton

Doctor Midgley, Jr., to Receive Perkin Medal for 1937

Dr. Thomas Midgley, Jr., Worthington, Ohio, vice president of the Ethyl Gasoline Corp, New York, and of Kinetic Chemicals, Inc., Detroit, is to receive the William H. Perkin medal for 1937

DR. THOMAS MIDGLEY, JR.

for distinguished work in applied chemistry, on January 8, 1937, in New York, at the Chemists Club. He is credited with the discovery of anti-knock compounds for use in gasoline, including tetraethyl lead, the chief ingredient of Ethyl fluid. The research on tetraethyl lead was done in the General Motors laboratories at Dayton and Detroit, with the assistance of T. A. Boyd.

The application of certain non-toxic organic fluorides to refrigeration, forming the basis of a great portion of the air-conditioning industry, was announced by Midgley in 1930. The refrigerating agent, a non-imflammable compound of carbon, chlorine and fluorine, developed with Dr. A. L. Henne in the Dayton, Ohio, laboratory of the Frigidaire Corp., promises to have an important place in refrigeration and air-conditioning.

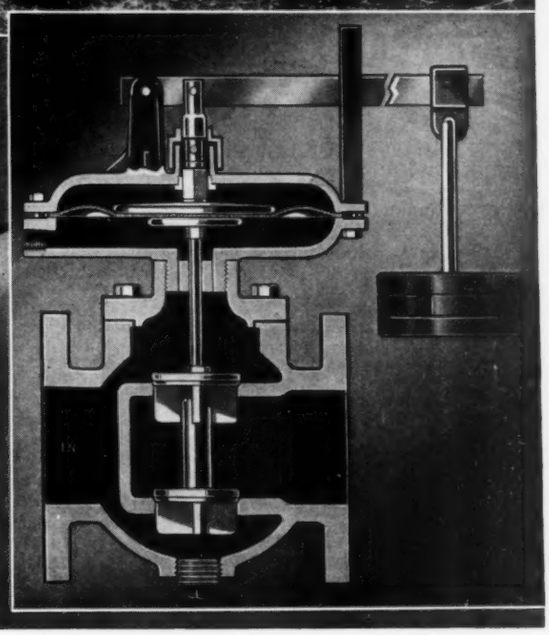
Doctor Midgley was born in Beaver Falls, Pa., May 18, 1889, and was graduated from the Sibley College of Mechanical Engineering, Cornell University, in 1911 with the degree of M.E. After graduation he engaged in private research in tires until 1914, when he became superintendent of the Midgley Tire & Rubber Co., Lancaster, Ohio. Since 1920 he has worked in the General Motors laboratories in association with Charles F. Kettering. He is chairman of the board of directors of the American Chemical Society, the author of nearly 50 scientific papers and holder of 40 patents.

The Perkin medal was founded in 1906 in commemoration of the fiftieth anniversary of the coal tar color industry, the first medal being awarded to Sir William H. Perkin, discoverer of aniline dyes. The medalist is chosen by a committee representing the American section of the Society of Chemical Industry, the American Chemical Society, the Electrochemical Society, the American Institute of Chemical Engineers and the Societe de Chimie Industrielle.

Peace River Expansion

PEACE RIVER, Alberta, Dec. 14.—Imperial Oil, Ltd., is extending and improving the storage and warehouse plants in the Peace River area taken over from Regal Oil & Refining Co. of Calgary. The system includes plants at Grande Prairie, Wanham, Peace River, Fairview, Westlock, Spirit River and Hythe.

Regulators



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Various designs are available for virtually every service. The field installation shown above is a 4" Type 216L maintaining the back pressure on a separator. Note the rugged reversible body and the extra heavy diaphragm casing and topwork construction.

The sectional view shows the non-reversible body regulator but fitted with the same type of lever and weight topwork. These regulators are also available with spring control and can be furnished in sizes 2" to 4" with screwed ends or 2" to 8" with flanged ends. For any pressure conditions from vacuum up to 25 lbs. Write for FISHER Gas Catalog No. 32B for complete information.

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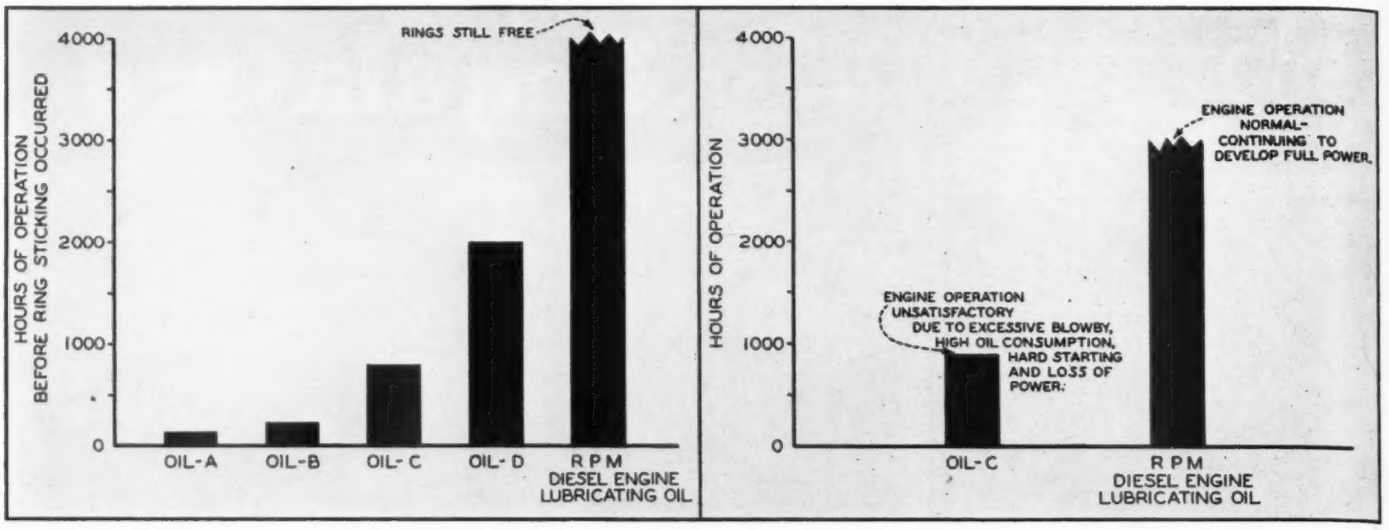


Chart at left shows laboratory results when studying anti-ring-sticking qualities of various diesel engine oils. Chart on right shows field results

Compounded Diesel Engine Oil Reduces Wear on Piston Rings

Early in the development of internal combustion engines and other prime movers which have been produced to serve industry, it became evident that lubrication requirements varied with the type of unit and with the operating conditions involved. Just as special oils are required for high speed turbines, for steam engines, for airplane engines, for electric motors, etc., so it must be recognized that a special type of lubricating oil is required for diesel engines.

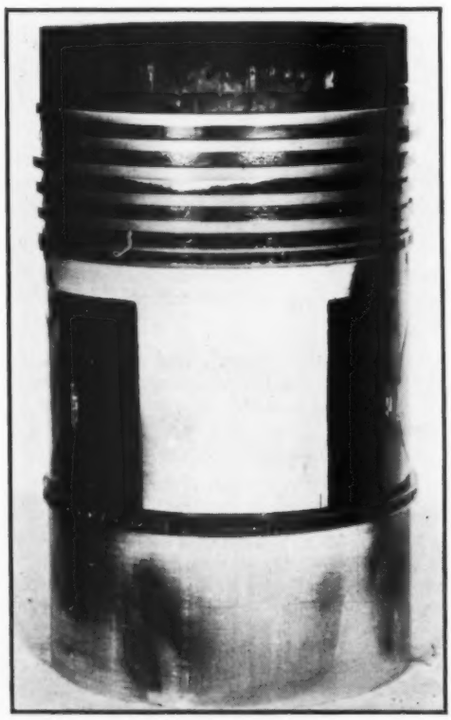


Fig. 1—Appearance of diesel engine piston after 4,000 hours of operation on RPM diesel oil. Note that rings are free and piston skirt is clean with no resinous deposit

Experience has shown that, when diesel engines are operated under heavy loads, there is a marked tendency toward the formation of carbonaceous and sludge deposits on the piston and in the ring grooves. When conventional motor oils are used, this condition results eventually in stuck rings, loss of compression, loss of power, excessive fuel consumption, hard starting, and impairment of lubricating oil distributing systems. Quite frequently complete engine failure and expensive engine overhauls result from this condition. Diesel engines operate under compression pressures as high as 500 pounds per square inch, and hence complete freedom of piston ring action is essential to the proper functioning of these engines.

The Standard Oil Co. of California has long recognized the specific difficulties encountered in diesel operation, and instituted research work which resulted in the development of a specially compounded oil recently introduced under the name "RPM Diesel Engine Lubricating Oil." This work was started as early as 1925, but the major portion of the development work has been carried out in the last three years, which period marks a very rapid trend toward high speed diesels for tractor and trucking service.

The development of RPM diesel engine lubricating oil has as a background many thousands of hours of laboratory and field test work. Typical examples of the comparative results obtained in these tests are shown in chart and in Figures 1 and 2. The test data apply to the Caterpillar diesel engine, which type of engine has been used very extensively in the development of this oil.

The test results obtained with the special diesel oil and its subsequent use in widely diversified types of diesel service show a remarkable freedom from ring sticking and attendant service difficulties. It has been shown also that a beneficial action is obtained in "cleaning-up" engines in which ring sticking has resulted from the use of unsatisfactory oils.

The problem of ring sticking in diesel engines is closely related to ring belt temperatures on the piston. The Caterpillar Tractor Co. has made exhaustive tests in investigating factors determining these relationships. Ring-belt temperatures are influenced by piston design, service conditions, load factors, cooling water temperatures and combustion characteristics. In a variable speed, variable

(Continued on Page 48)

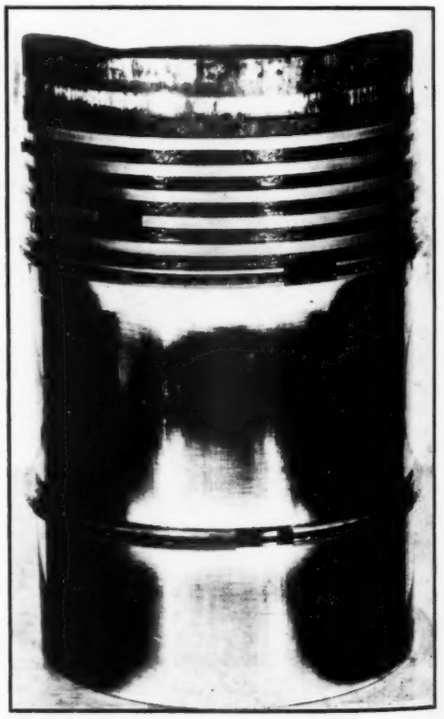


Fig. 2—Appearance of diesel engine piston after less than 500 hours of operation on conventional type oil. Although the rings are still free, the excessive carbonaceous and resinous material, particularly on the piston skirt, indicate that additional operation will result in stuck rings

Sand-Tamped Well Shots Prove Successful on Flood Project

By J. P. O'DONNELL

The use of sand tamping in shooting oil wells is being carried on successfully by the Belleview Oil Corp. in its water-flooding project in the Clarendon field of Pennsylvania, and, as a result of the success encountered there, it may become widespread in the Pennsylvania district, particularly in the hard sands of the Kane and Clarendon fields. This is the first time sand tamping has been used on an extensive scale in the eastern fields. It has been used in the past on a more or less experimental basis in the Pennsylvania fields, notably in the Bradford and Venango Third sands. In instances in both sands the formation was too soft for the size of the shot, which led to poor results.

The Sargent Gas Co. is reported to have since tried sand tamping in the Bradford sand near Kane, with the result that it proved highly effective. Many plausible reasons have been put forth for favoring water tamping over sand tamping. One argument is that water prevents the shot from fusing the sand face; another is that the water discharged from the well by the shot serves to clean the sand by removing the pulverized material. While water may serve several useful purposes in regard to shooting, the results obtained by Belleview Oil Corp. show quite conclusively that sand tamping offers a notable improvement, at least in the case of hard sand in this district.

METHOD OF SHOOTING

Twenty oil wells have been drilled during the past year on the Belleview property in the Clarendon field. The first six were shot with the customary water tamping but in the last 14 the shots were tamped with sand, a practice that will be followed in completing all of the remaining 85 oil wells and all of the water input wells yet to be drilled in the program. The 32 input wells already completed were shot with water tamping, but those called for in the balance of the development will be sand tamped and, according to the present intention of the operators, will be shot with the same size charge as is being used in the oil wells.

According to Philo Johnson, superintendent for Belleview Oil Corp., three times as much initial production can be expected when a sand-tamped shot is used as results from the use of a water-tamped shot. While the cost is only slightly higher, vastly more "bleeding space" results from the former method.

It has required as much as 13 days to clean out a well shot with 100 quarts sand-tamped, whereas it is often the case that a well shot with 120 quarts water-tamped can be cleaned out in one day and the casing run the following day. On the average, the cleaning-out period after a sand-tamped shot ranges from four to seven days, employing the methods used by this operator. The length of the clean-out period indicates the size of the shot hole made, and this shows the effectiveness of the shot. The more material is removed from the hole, the more the sand has been opened up to permit the passage of gas and liquid.

Deep-well water turbine before being housed, and in the background the water-treating unit

After shooting the first six wells, if 75 feet of oil was found in the hole the well's productivity was regarded as very good. More than 300 feet of oil was found in some of the wells in which sand tamping had been employed. The time which elapsed between the shot and the test for fluid level was approximately the same in all cases. These data show that the oil came into the hole more rapidly when sand tamping was used, and it may indicate that the greater explosive force caused by better confinement had the effect of opening up productive strata farther from the hole, where more of the original reservoir pressure had been retained.

Eighty quarts of glycerin are used by Belleview Oil Corp. in a sand-tamped shot. The cost of the nitroglycerine plus that of the time bomb is only slightly higher than the cost of the 120 quarts of nitroglycerine used with the water-tamped shots. The 80-quart shot with bomb costs $217, while the 120-quart shot costs $210. The sand on top of the shot makes it necessary to use a time bomb, whereas with water tamping a jack squib or some other inexpensive method of setting of the charge can be used. However, the time bomb is a safer method to use, and less chance is taken of injuring the well.

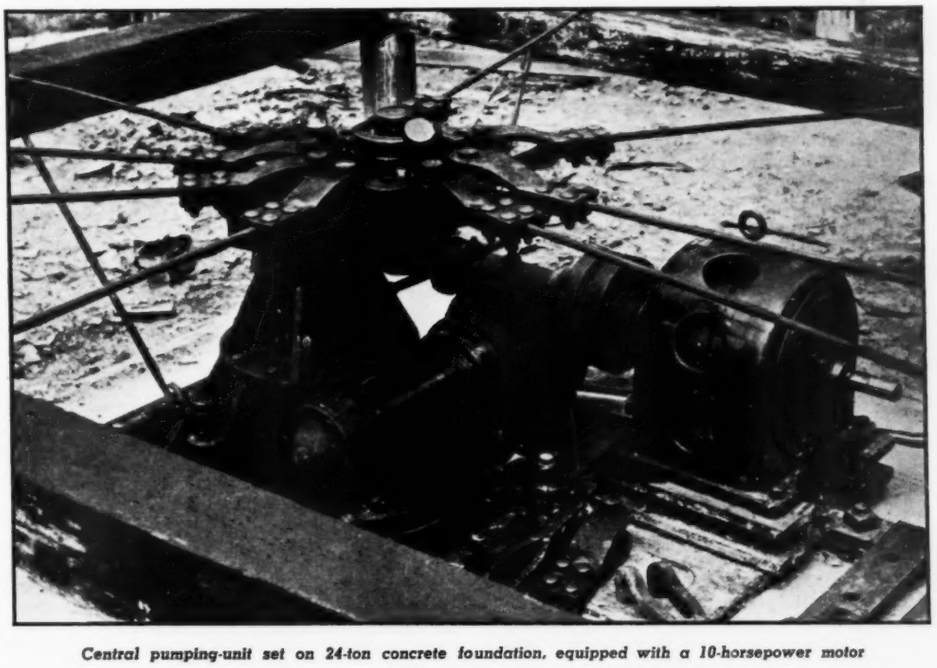
SHOT OFF LOCATION

The method employed by the Belleview Oil Corp. is to set the shot about 2 feet off the bottom of the sand. The Clarendon sand is found at approximately 1,100 feet and approximates 32 feet in thickness. The bomb is placed in the upper 2½ feet of sand and over it is placed the bridge. A pronged branch from a tree is wrapped in burlap and put in the hole first. Eight feet of stone is set on this and 130 feet of damp sand is run in on top of the stone. The sand is taken from the pit the same day it is run in order to insure dampness, a highly desirable quality.

The time bombs which have been used on this development are usually set to detonate two and one-half hours after the firing pin carriage has been moved. The greatest variation from the time set has been three minutes.

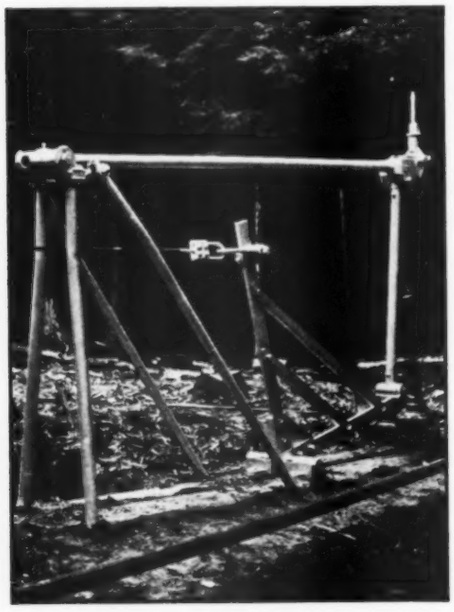
The Belleview Oil Corp. completed the first year's development in a six-year program for operation of the property last week. The 270-acre tract is being developed on the delayed five-spot plan.

The water treating unit which has been installed, mixes fourteen pounds of lime with each 1,500 barrels of water to counteract the water's alkaline and acid content. This prevents the formation of rust which would clog the pores of the sand. Water is pumped to the treating unit from



Central pumping-unit set on 24-ton concrete foundation, equipped with a 10-horsepower motor

a 53-foot well by a deep-well turbine pump of 90 gallons per minute capacity, and is fed into the lines by gravity. Approximately 160,000 barrels of



Type of pumping jack employed by Belleview Oil Corp. on its leases in the Clarendon field of Pennsylvania

water have been pumped into the sand with a pressure of 750 pounds at the intake wells.

Cost of the development was estimated originally at $2,500 per acre. The actual cost on the part so far developed has varied only slightly from the original estimate.

The Belleview Oil Corp. is following a pattern to agree with that of Cities Service Co., who operate an adjoining lease, in developing the Clarendon sand by the delayed five-spot plan. It is reported that the first oil well drilled on the adjoining Cities Service tract has given good production ever since its completion five years ago.

The Belleview Co. has just started producing their wells on the Clarendon tract. The Cities Service Co., who purchase their oil have installed a 5-horsepower centrifugal pump, capable of taking 80 bbls. per hour, to handle the production.

Wear on Piston Rings Reduced by Diesel Engine Oil

(Continued from Page 46)

load, high speed diesel engine, it is quite possible, therefore, to observe considerable variation in ring-belt temperature.

Furthermore, mineral oils exhibit widely varying tendencies in forming deposits on pistons and in ring grooves. These tendencies are closely related to the type of mineral oil base and the refining methods used. Depending upon the interrelated influence of these factors, deposits may be formed of consistencies varying from hard lacquers to soft, spongy carbon. These products may be formed within narrow temperature ranges or may occur over wide ranges of temperature. Also, these factors affect the quantity of deposits attaching themselves to the piston and ring grooves.

With information of this character, it would be conceivable that a diesel piston could be designed which would have such ring-belt temperatures as to provide very satisfactory operation on any one selected type of mineral oil. This condition would only maintain itself in the field, however, provided operating conditions could be kept consistent for the best advantage of the selected lubricant. A second or a different type of mineral oil would require another controlled temperature range on the piston to permit optimum operating advantages to satisfy that particular lubricant. These situations are not practical for wide range service conditions or possible in products having wide geographic distribution.

The solution of this problem is the use of a compounded lubricant which minimizes the effect of variation in ring-belt temperatures, thereby broadening the scope of the diesel's usefulness in service with greatly reduced maintenance expense.

The development of RPM diesel engine lubricating oil has therefore resulted in an increase in the potential value of the diesel engine. For example, freedom from ring-sticking difficulties has made it possible to operate satisfactorily at a higher load factor and expensive engine overhauls with consequent loss of valuable operating time have been largely eliminated.

RPM diesel engine oil should not be confused with RPM motor oil, a new automotive product placed on the market by the Standard Oil Co. of California during the past year. This latter product is especially designed to meet the requirements of modern high-speed, high-compression automotive engines. It is particularly adapted also to give satisfactory service with new types of bearing metals. This statement, we understand, cannot as yet be made about RPM diesel engine oil, because all development work on the latter has so far been confined to motors equipped with conventional babbitt-type bearings.

Michigan Gas Reserve

MUSKEGON, Mich., Dec. 14.—Michigan's largest natural gas field in Millbrook, Hinton and Belvidere townships, Mecosta and Montcalm counties, has not yet been fully developed, it was stated by Max W. Ball, geologist, of Denver, at a hearing recently in Lansing on the Grand Rapids Gas Co. petition for right to serve Grand Rapids with 100 per cent natural fuel from the field.

Mr. Ball testified in a suit brought by the Grand Rapids company to enjoin the Michigan Public Utilities Commission from limiting the company to a 50-50 mixture of manufactured and natural gas. Defying a commission order, the company, which claims rights to about 50 per cent of the field's open flow capacity of about 4,000,000 feet daily, has proceeded to connect most of its customers with 100 per cent natural gas.

Mr. Ball said the company holds reserves of about 23,000,000,000 feet against his estimate six months ago of a total of 53,124,157,000 in the field. State engineers, however, contend the total reserves do not exceed 31,000,000,000 feet, holding this insufficient for both Grand Rapids and the Consumers Power Co., previously granted the right to serve Lansing, Saginaw, Bay City and other cities with 100 per cent gas.

The city of Grand Rapids is supporting its gas company in the suit with Consumers Power, intervening on behalf of the state commission.

Gas Revenues Increase

In increase of 6.8 per cent in revenues of manufactured and natural gas utilities for the first eight months of 1936 to $520,507,800 from $487,378,800 for the corresponding 1935 period, was reported by the American Gas Association.

Total revenues received from consumers by the natural gas industry in the first eight months of 1936 were $267,863,800, an increase of 12 per cent from $239,218,800 for the similar 1935 period.

Revenues from industrial uses gained 21 per cent to $80,822,200 from $66,859,600, while those from domestic uses increased 7.7 per cent to $155,084,900 from $143,952,300.

Domestic customers served by manufactured and natural gas utilities increased 100,000 in the first eight months of 1936 to 15,236,600.

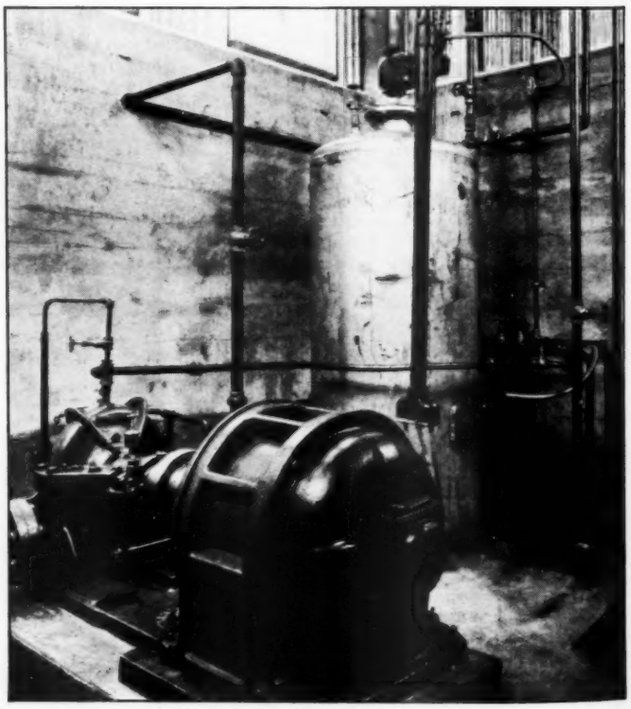
The increase in customers was reflected in the sale of some 910,000 gas ranges in the country during the first eight months of 1936. This was an increase of 28 per cent over that period in 1935.

Moving Ontario Line

CHATHAM, Ontario, Dec. 14.—Middleton-Norfolk Gas & Oil Co. is moving 4 miles of 4-inch line purchased some time ago from Olga Gas, Ltd. The line was laid about 1932 to deliver gas from a field in Raleigh Township, Kent County, to the Southern Ontario Gas Co. The pipe is being used for field lines.

AUTOMATIC OIL GATHERING STATION

An innovation in gathering line practice is being tested in the Rodessa field. This is an automatically operated station designed by engineers of the Magnolia Pipe Line Co. in the Dallas office. The station is located on the Magnolia's Caddo Levee Board lease, section 21-23-16, in Louisiana, near the Texas line. Equipment is placed in a pit to facilitate the flow of oil from the lease tanks to the surge tank from which it is pumped to the main line 6 miles away. During the short time it has been in operation it has functioned satisfactorily.



The assembly, consisting of two pumps, surge tank, and controls is placed in a 12 by 12-foot concrete pit about 8 feet deep. The flow of oil from the lease tanks is accelerated by a Nash Hytor vacuum pump driven by a direct connected three-phase, 60-cycle, 224/440-volt motor. Two floats in the receiving tank control the operation of this pump. Oil is pumped from the receiving tank by an automatically controlled pump driven by a direct-connected three-phase, 60-cycle 2,200-volt motor. Both motors are controlled through mercury contact switches.

Oil from the station is delivered to a main line station, which is also electrically operated, 6 miles away. The automatic gathering line station described above has a capacity of 25,000 bbls. Obviously a unitized pumping station constructed in the manner shown here is easy to move.

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If you are interested in cutting drilling costs and improving production records, Republic metallurgists will be glad to help you. Write to Department OG. Your questions concerning types of steels for definite service and your requests for metallurgical assistance will receive prompt attention.

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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Evaporation of Liquids as Related to Reid Vapor Pressure Determination

Please advise if the procedure for determining the vapor pressure of a crude oil is the same as the Reid method on gasoline? If the procedure is not the same, kindly give us the procedure which is acceptable in the oil industry—O. O. C.

The molecules of a liquid are in a state of motion. Some of the molecules have a greater kinetic energy than the average so in the course of their movements they strike the surface of the liquid, break through it and escape, causing the liquid to diminish in quantity. The process is evaporation. The escaping molecules are those having the highest temperature, therefore, the temperature of the remaining molecules will fall. This fact is demonstrated in the wet-bulb thermometer.

In a confined space the molecules continue to escape from the surface until a state of equilibrium is established; as many falling back from the confining walls as leave the surface in a given time. The enclosed space is saturated with the vapor of the liquid. The number of molecules escaping from the surface of a liquid depends upon temperature but is independent of the pressure, as shown when the volume of a saturated vapor is reduced by force, there merely results a condensation of a portion of the vapor and if expanded there is an increased vaporization of another portion of liquid, the pressure remaining constant. The pressure exerted by a gas is caused by the number and velocity of the molecules in a given volume, hence equilibrium results when the vapor above the liquid exerts a definite pressure, which pressure will be constant for any given temperature. When this pressure is determined for a given liquid it is designated as its vapor tension or vapor pressure.

This brief discussion of vapor pressure is offered to make clear that vapor pressure is a property of all liquids. Any method for determining vapor pressure of a liquid should serve equally well for all similar liquids. The Reid method for gasoline, giving the vapor pressure, in pounds, at 100° F., will permit the same kind of a determination when crude oil is subjected to the same conditions.

References: Federal Standard Stock Catalog, Sec. 4, part 5, VV-L-791a, Method 120.1, A.S.T.M., D 323-32T.

Inhibitors and Neutralizers Used for Gasoline and Kerosene

What are the chemical names of the best inhibitors and neutralizers that are used in gasoline and kerosene for the prevention of gum formation and to assist color stability? Are such materials used as "cover up" agents to make saleable inferior products?—D. R. T.

There are several substances that serve a useful purpose for preserving the quality of gasoline and kerosene. Just which of these are the better may be a matter of choice, possibly a material used to advantage with one product would not be so satisfactory when added to a similar product of different origin.

Some of the compounds present in petroleum products have a tendency to darken with age, causing the liquid to become colored yellow to brown, with the formation of a varnish-like gum. Any substance that will stop or retard such developments has a real value in the industry. These compounds cannot be said to disguise or mask an objectionable feature but are deterrents to a process that results in spoiling. Catalysts usually hasten a change but inhibitors prevent it or slow it down. Most of the changes of this type are due to oxidation so the inhibitor is therefore an antioxidant.

The antioxidants are either amines or compounds closely related to the phenols. One of the first substances to be used for gum control was tri-cresol, a mixture of the three cresols (o-m-p) and other compounds, which was applied for the stabilization of motor benzol. Concentrations of 0.001 per cent by weight of p-methyl amino phenol and p-phenylene diamine have been found to be effective as gum inhibitors.

Investigating color stabilizers for kerosenes Rather and Beard found: Thiocarbanilid, hydroquinone, resorcinol, pyrocatechin, pyrogallol, phoroglucinol, 1,2,4-trihydroxybenzene, butyl pyrogallol, alkyl-substituted dihydroxybenzene, alkyl-substituted polyhydroxybenzene, ethanolamines, urea, and thiourea were among the compounds that would stabilize the color. After storage for 10 to 14 months the color was reduced from 18 and 21 to 12 and a few to —1 or less. The polyhydroxybenzenes, proved to be capable of restoring the oils to nearly the initial color, and the renewed color persisted with little loss for 6 months. The antioxidant was dissolved in ethyl or isopropyl alcohol and the solution was added to the oil in the proportion of 1 gallon to from 2,000 to 15,000 gallons depending on the age and condition of the oil. The kerosene should not be stored in the presence of water.

A large number of inhibitors and their behavior were studied by Egloff, Morrell, Lowry and Dyer.

References: Nash and Howes, Principles of Motor Fuel Preparation and Application. Rather and Beard, Jr., The Oil and Gas Journal, May 14, 1936, page 209. C. D. Lowry, Jr., Library Bulletin of Abstracts, Abs. from Electrochemical Society, Cincinnati, April 23, 1936. Egloff, et al., Ind. Eng. Chem. 24, 1375, 1932.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired postage should be enclosed.

SPECIFICATIONS

FUEL OIL—BUNKER A, B, C, AND DIESEL ENGINE

(Navy Standard)

Fuel oil shall be a hydrocarbon oil free from grit, acid, fibrous or other materials liable to clog or injure burners or valves. May be required to be strained through 16-mesh screen.

REQUIREMENTS

(Kind of fuel oil)

Tests—	Diesel engine	Bunker fuel A	Bunker fuel B	Bunker fuel C
Flashpoint °F. min. (closed P.M.)	150	150	150	150
Visc. Furol sec. at 77° F. at 77° F. max.	100	100	†100	†300
Sulfur per cent max.	1.5	.....	.....	.....
Water and sediment per cent max.	1.0	1.0	1.0	*2.00
Sediment per cent max.	.....	.....	.....	0.25

Note—Flashpoint for oils having Furol viscosity above 30 seconds at 150° F. shall not flash below the temperature at which the oil has 30 viscosity.

*A deduction in quantity will be made for all water plus sediment in excess of 1 per cent. †At 122° F.

Reference: U. S. Army Specification No. 2-43 D., March 5, 1929.

Forms of Sulfur for the Sweetening Operation and the Method of Use

Do you have any information concerning rock sulfur as applicable to sweetening and compared with regular sulfur?—R. K. G.

Sulfur is used in two forms in the refining of petroleum distillates, the powder and the lump. The powder may be the "flowers of sulfur," consisting of minute crystals of sublimed sulfur, or the powder produced by pulverizing lump sulfur. The lump or rock sulfur may be obtained as irregular lumps or cylindrical rods of "roll sulfur." The lump sulfur is slightly more soluble in gasoline than the flowers of sulfur, but the powdered lump sulfur, of course, has the same solubility as the rock and roll sulfur.

Under natural conditions the commercial gasoline of about 60° A.P.I. gravity will dissolve 0.5 per cent of roll sulfur. This may increase to 1.5 per cent if the temperature is raised. When the gravity of the petroleum falls, slightly more sulfur will dissolve; this means that the heavy gasoline fractions dissolve more sulfur than the lighter portions.

Sulfur may be applied when sweetening in one of several ways. A weighed quantity may be added direct; a separate stock solution may be prepared and portions used; a solution may be automatically made by by-passing a portion of the distillate upward through a small tower which is packed with rock sulfur and run the stream from this tower into the main stream before it reaches the plumbite solution. Some refiners obtain their sulfur from a portion of the raw cracked distillates.

Reference: Kalichevsky & Stagner, Chemical Refining of Petroleum, page 142.

Meaning of the Term Gravity and Its Indication of Quality

What is meant by the term "gravity" used in reference to crude oil? Our supposition is that this term refers to the specific gravity of the liquid. Is the gravity the principal determinant of the price of oil or may oils of the same gravity vary in quality?—J. E. M.

The term gravity, when used in reference to crude oil, means a set of numbers and tenths called A.P.I. (American Petroleum Institute) degrees ranging from 10, which corresponds with water, upward. The lighter the liquid, the higher the number.

These numbers have a relation to specific gravity as expressed by the formula:

$$\text{Degrees A.P.I.} = \frac{141.5}{\text{Sp. gr. } 60°/60\,°\text{F.}} - 131.5$$

The gravity of an oil is found by means of an hydrometer and is corrected to the standard temperature of 60° F.

The greatest part of the crude oil of the United States is priced according to a gravity schedule. There are exceptions, as in the case of Pennsylvania grade oil, where composition and transportation conditions have to be considered. In this district it is customary to price the oil by fields and groups.

Usually the A.P.I. gravity of an oil is a fair indication of gasoline content. An oil of 40° gravity will normally contain more gasoline than a 30° gravity oil but here also are exceptions. All oils of the same gravity do not yield in the refinery the same percentages of given products and these products are not identical in properties.

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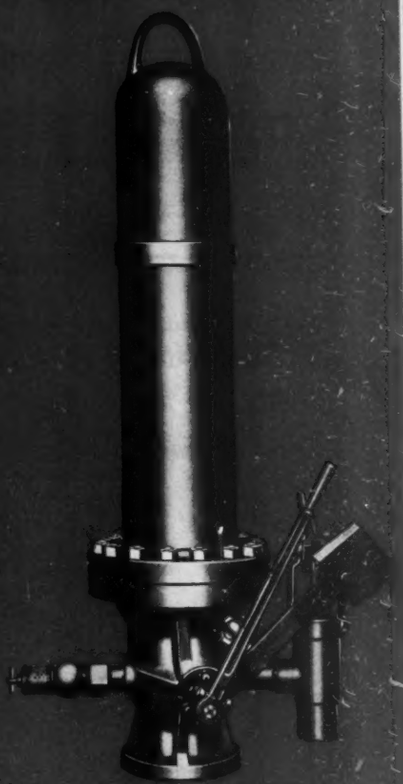

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PROBLEMS FROM READERS

Edited by L. G. E. Bignell

Well Will Not Pump When Pressure Builds Up to 8 or 12 Pounds

I have several wells in Wilson County, Kansas, producing from a sand found about 800 feet but they will not produce on the pump when the gas pressure builds up to 8 or 12 pounds at the casing head. There is a 4-foot gas anchor below the working barrel but this does not remedy the trouble. Have you any suggestions to offer?—J. P. C.

You are probably experiencing some form of "gas lock" in the working barrel. You do not give sufficient details to permit proper study of the problem but in small wells of this kind it is not uncommon to have the pump cease to operate when the back pressure in the well builds up. It is possible the back pressure is high enough to stop the flow of oil from the formation.

If the oil will flow into the hole against the 12-pound pressure your problem then is limited to getting oil into the working barrel.

With the regular type common working barrel there are two steel balls, one in the traveling and one in the standing valve. On the up stroke of the traveling valve the pressure on top of the ball in the standing valve is relieved. These steel balls weigh 8 ounces for 1½-inch diameter, 13 ounces for 1¾-inch diameter, 19 ounces for 2-inch size and 26 ounces for 2½-inch size.

The ball in the standing valve will not leave its seat until the external pressure is high enough to push it up in the cage and when there is an excess of gas in the hole under relatively high pressure the first thing to enter is gas accompanied by some oil. Gas under 12-pound pressure will tend to expand in the space between the traveling and standing valves and as it expands it is reduced in pressure.

When the top of the stroke is reached this gas is filling the lower portion of the working barrel and it is compressed slightly as the traveling valve moves downward but not enough to lift the traveling valve ball off of its seat and permit the gas and oil to escape upward into the tubing. This "gas lock" also prevents the ball in the standing valve from lifting from its seat and the pump will no longer function.

If the gas and oil can be drawn into the lower part of the working barrel just as quick as the standing valve starts on its upward movement more fluid and less gas will actually be taken into the barrel and at the same time the gas will not have opportunity to expand as much as it does when the traveling valve is some distance above the standing valve.

Assuming your pump is on an 18-inch stroke. At the bottom of a 800-foot well the effective stroke would be about 14 inches to compensate for rod and tubing stretch. If the working barrel is 5 feet long and this traveling valve is moving through the upper portion of this barrel there is about 46 inches of space between bottom of traveling and top of standing valves when the traveling valve is at its lowest position. If this space is filled with considerable gas that has expanded from 12-pound pressure to nearly atmospheric pressure it will be difficult to compress it enough with this short stroke to force the traveling valve ball up.

It is suggested that the traveling valve be lowered to very near the top of the standing valve. Then pick it up enough to permit just as much stroke in the bottom of the working barrel as possible without pounding the valves together. This will tend to open the standing valve quickly after the traveling valve starts up and as the gas and oil enters the gas does not have the opportunity to unduly expand and the energy stored in this gas will be used to lift the ball in the traveling valve and permit the fluid to enter the tubing. In giving consideration to all this it must be remembered that there is a head of fluid above the traveling valve exerting a pressure of about 35 pounds for each 100 feet of column depth. Therefore with only 12 pounds available from the shut-in pressure and at least 35 pounds acting on the upper side of the traveling valve ball the gas between the two valves is slightly compressed and expanded on each stroke of the beam.

If a light ball is used in the standing valve it will lift off of the seat quicker permitting gas and oil to enter but restricting the volume to which the gas could expand because no partial vacuum is created above the standing valve before the fluid enters. In other words, the gas is permitted to expand in a much smaller space when the fluid enters the working barrel chamber quickly after the traveling valve starts on the up stroke but if the entrance of the fluid and gas is delayed the space in which the gas can expand is increased many times and this causes the "gas lock" because it cannot be compressed enough to release the upper valve.

Try lighter ball in the standing valve, lower the traveling valve so that it has minimum clearance above the standing valve without knocking, and reduce the number of strokes per minute on the beam. If this does not produce oil then it may be possible the back pressure has prevented the oil from leaving the sand and the only relief then will be to lower this back pressure.

You stated you had a 25 to 27 gravity oil. It may be you are actually pumping off, that is when your pumps work the oil accumulated in the bottom of the hole is removed and this thick oil will not flow into the well as fast as your pump will remove it. In that case you might try pumping at slower speed.

Pipe Stringing and Other Pipe Line Construction Costs

Do you have a booklet giving methods of estimating cost of stringing pipe along pipe line right of way?—N. P. R.

We know of no book on subjects of this kind except general handbooks in which costs of construction operations are given. We do, however, have some empirical figures based on average wage conditions in the Mid-Continent region. Most of these prices are upon the lineal foot basis but hauling is estimated upon costs per ton mile and to arrive at some idea of cost of stringing pipe it will be necessary to determine the weight of the pipe per foot and the number of feet per ton. It is safe to use 20 cents per ton mile for hauling and distributing pipe along right of way but the total cost will of necessity include hauling the pipe from point of distribution. In other words if the pipe is delivered by railroad the total cost will be based upon hauling the pipe from railroad switch to the right of way but stringing the pipe will properly only cover that particular portion of the haul along the ditch. Other figures for pipe line work on lease lines is based upon cents per foot of length of the line.

	Cents per foot
Right of way (easement)	3
Surveying	½
Clearing right of way	¼ to 2½
Ditching 24 inches deep*	
By machine	7
By hand	12
Laying pipe, per inch of diameter	1
Inspecting	1
Hauling and stringing pipe—20 cents per ton mile.	

*Backfilling is included in ditching cost.

Where and When Were Wire Lines First Used in Oil Well Drilling?

When was wire rope first used as a drilling line on oil wells? Please give me any information you have on the early use of wire lines in the oil fields.—W. V.

From the Diamond Jubilee edition of The Oil and Gas Journal, August 23, 1934, has been taken the following information about the introduction of wire lines for cable tool drilling in the oil country.

The deepest well in the United States up to 1898 was one drilled by the Forest Oil Co. on the William Bedell farm near West Elizabeth, 12 miles south of Pittsburgh, Pa., and had a total depth of 5,575 feet.

At a depth of 5,500 feet the crown pulley broke and cut the rope, dropping the tools 100 feet and plugged the hole. To drill this well it required extra heavy machinery consisting of two 25-horsepower engines and boilers, three bull ropes, 16-inch belt, 13½-foot band wheel, 5-inch forged crankshaft, two brakes on bull wheels and two cables spliced together. The weight of the cable was about 14,000 pounds and the approximate cost of the well was $40,000.

This specification indicates wire lines were being used for drilling in 1898 and this is further indicated by the fact that it is reported that wire drilling lines were first used "during the middle nineties."

It appears that wire lines were introduced into the industry first in the form of the light sand lines. These lines, made of wire, were used to run the bailer because they were easier to handle than the manila rope and had the required strength for this duty.

It is reported that larger wire lines were first used for pulling liners and similar work around the wells where greater strength than to be had in manila lines was necessary. As the 1-inch diameter wire lines were wound on the bull wheels it is logical to assume that the drillers tried them out for drilling, but it is understood that the first wire lines were equipped with "manila snappers" between the tools and the lower end of the wire line to give the required motion to the tools and it was a long while before the old-time drillers would concede that the wire lines could be attached directly to the tools and make hole.

While this history indicates that the steel industry had been attempting to introduce wire lines for drilling into the oil industry for some time after 1890 except for bailing or sand lines it was not generally accepted until Jack Prosser invented a swivel socket for wire lines which was first used in the Hamilton Switch field, north of Okmulgee, Okla., in 1910. With the swivel socket perfected wire ropes came into general use and gained favor from that time on. Wire ropes with manila "crackers" were used generally as far back as 1906 but the cable tool drillers were not sold on the wire cable until 1910.

The desire to use wire rope was indicated in the nineties when it was learned it could be used more satisfactorily in wet holes especially holes drilled in shale or other mud making formations. Manila rope tended to become unduly heavy when used in wet holes and for this reason a substitute was desired. With the development of the Prosser swivel socket the difficulties formerly encountered using wire cable were overcome. In addition to the wire rope socket other pieces of equipment were developed for use with wire rope at about this time and as a result of these inventions steel rope has been generally used for both cable tool and rotary wells ever since.

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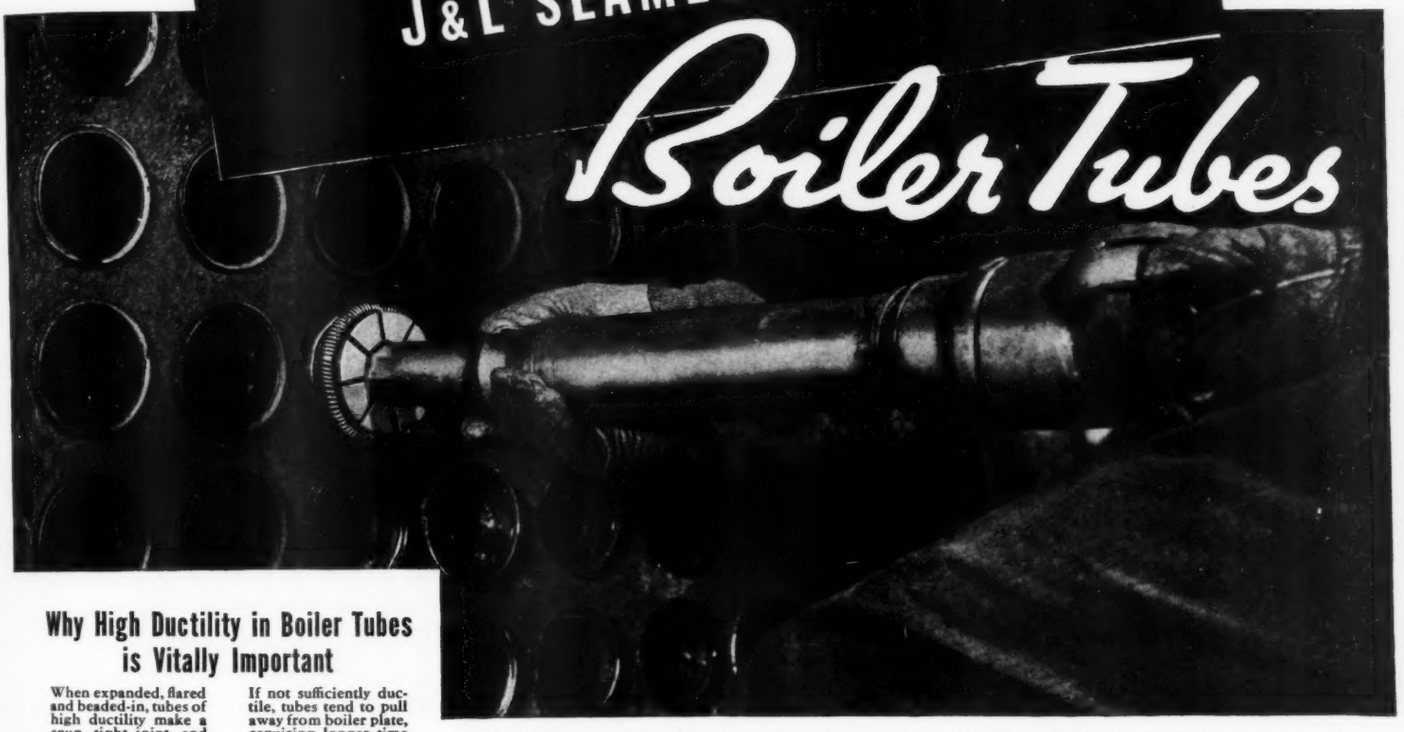

Expanding J & L Boiler Tubes in a typical installation. High ductility permits snug tight joints that "stay put" permanently.

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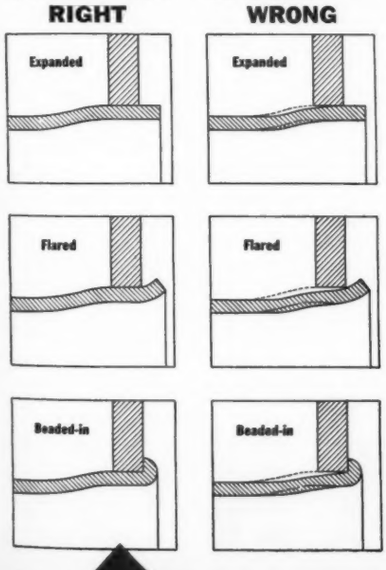

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FIELD OPERATIONS

Summarizing the Week's Developments

One new well in the Moore field, Cleveland County, Oklahoma, made a potential of 30,063 bbls. of oil daily. Another, yet to be tested, was estimated good for from 30,000 to 35,000 bbls. daily, and a third, nearing completion, flowed 500 bbls. of oil in 1 hour. A Texas County wildcat, in the Oklahoma Panhandle, was showing as a probable gas-pool opener. Twelve new oil wells were completed in the Fitts field, Pontotoc County.

KANSAS

A wildcat between the Hauschild and Saxman pools, southern Rice County, was estimated good for 2,000 to 5,000 bbls. of oil and may connect the two pools. Two wildcats in northern Barton County, south of the Trapp area of Russell County, were showing as producers. A Sumner County wildcat flowed over the derrick, but testing was delayed when fire damaged the rig. A 10,771-bbl. well was completed in the Warkentine pool, Harvey County, and big wells were completed in the Lerado and Otis fields.

TEXAS

The purchase by Byrd-Frost, Inc., Ralph E. Fair and J. F. Lucey of 2,620 acres from Gulf Oil Corp. in the Talco field in Titus and Franklin counties, Texas, will be followed by the erection of a 5,000-bbl. refinery in the field by the purchasers, and will spur on the development of that field. Several additional deep tests are reported for eastern Texas counties. In southwest Texas the Hoffman field in Duval County was extended and a Guadalupe County wildcat shows as a producing well. Activity in the southwest area shows no sign of a let-down. It has been the busiest area in the United States this year. In West Texas tests near completion may join the Goldsmith pool with other producing areas and make it a large major field, 10 miles, or more, in length. In the Gulf Coast area additional development was assured the Hitchcock Prospect in Galveston County notwithstanding the district's deepest well had to be plugged back from 10,460 feet to 5,170 feet because of heaving shale. It showed considerable gas pressure at bottom. It is a small producer at the plugged-back depth.

LOUISIANA-TEXAS

The new oil pool in the Sligo gas field in North Louisiana was extended a mile northward by a well starting at 840 bbls. per day. Marion County, Texas, is assured a new test for Trinity production. The big Rodessa field had a dull week with nine average-sized completions.

NEW MEXICO

The second producer in the northwest extension of the Stuart sand pool in Lea County was completed, flowing 1,020 bbls. of oil naturally in 24 hours. The largest completion of the week was a 1,536-bbl. natural well in the Eunice field. A total of eight wells in Lea County were completed.

CALIFORNIA

The Wellington and El Segundo pools in California, which heretofore have yielded only relatively small wells, surprised with a 1,389-bbl. and 2,533-bbl. well, respectively. The Santa Maria Valley field further proved itself with a 1,790-bbl. producer.

EASTERN FIELDS

A 400-bbl. well in Clay district, Ritchie County, West Virginia, may be an extension to a pool recently opened. It is an unusually big well for that old area.

MICHIGAN

A 33,000,000-foot gas well increased the potential gas reserves of Michigan, but oil wells were scarce, and more wildcat dry holes were recorded.

Completions in All Fields

(Week Ending December 12, 1936)

	Oil	Gas	Dry	Total	1936 total comp. to date	1935 total comp. to date
Penna. Grade Fields	50	24	9	83	3,268	2,926
Lima Field	0	0	0	0	80	92
Central Ohio	5	15	6	26	437	299
Indiana	0	0	0	0	162	186
Illinois	0	0	0	0	27	11
Michigan	2	3	3	8	634	569
Kentucky	4	0	2	6	281	238
Kansas	26	1	13	40	1,592	1,163
Oklahoma	43	1	10	54	2,337	1,948
North Central Texas	27	1	20	48	2,365	2,491
West Texas	32	2	7	41	1,527	810
Texas Panhandle	5	3	0	8	618	679
East Central Texas	6	0	0	6	377	244
East Texas	42	0	0	42	2,362	4,039
East Texas Border	8	0	1	9	145	12
Gulf Coast Texas	21	0	7	28	1,135	1,040
Southwest Texas	48	0	21	69	2,832	1,530
Total Texas	189	6	56	251	11,361	10,845
North Louisiana	2	1	4	7	592	325
Gulf Coast Louisiana	4	0	0	4	351	340
Total Louisiana	6	1	4	11	943	665
Arkansas	1	0	2	3	85	113
Montana	2	1	0	3	232	182
Wyoming	1	0	3	4	106	87
Colorado	0	0	0	0	26	18
New Mexico	8	0	0	8	562	326
Utah	1	1	0	2	7	5
California	19	0	4	23	1,177	1,062
Total United States	357	53	112	522	23,317	20,735
Total previous week	377	48	113	538		
Difference	20	5	1	16		

Outstanding Fields—Highlights

(Week Ending December 12, 1936)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Anahuac	3	5	1	288	131	8,257
Hastings	4	7	2	984	112	6,937
Loma Novia	2	6	3	1,200	623	14,900
Seven Sisters	2	5	5	2,830	336	7,830
Saxet Heights	1	10	4	670	190	8,100
Saxet	5	34	13	2,250	284	19,040
Lopez	2	6	2	360	245	5,780
Talco	20	39	4	593	134	11,000
East Texas	36	96	42	1,446	21,847	444,947
OKLAHOMA						
Fitts	10	68	12	11,296	548	65,475
Oklahoma City	2	11	1	1,849	1,084	164,900
Burbank-S. Burbank	0	7	2	1,666	2,159	23,350
KANSAS						
Ellis County	4	13	0	0	69	3,295
Reno County	5	19	2	1,238	349	17,194
Russell County	10	44	7	10,277	528	23,306
Rice County	4	49	6	7,963	642	38,562
NEW MEXICO						
Lea County	5	94	8	5,334	502	74,630
LOUISIANA-TEXAS						
Rodessa, La.	4	12	2	528	332	57,665
Rodessa, Tex.	9	55	7	3,477	127	24,320
Gillis, La.	2	6	2	0	53	17,876
Tepetate, Tex.	2	2	2	602	38	6,198
MICHIGAN						
Porter-Yost	7	5	0	0	419	14,563
Crystal Montcalm	8	10	0	0	143	3,129

Michigan Field Report

33,000,000-FOOT GASSER IN WEEK OF FEW NEW WELLS

By
PAUL A. ELLIOTT

MUSKEGON, Mich., Dec. 14.—With many near completions but few completions, Michigan operators last week awaited the possibility of important new developments in several wildcat areas where recent success has indicated likely prospects of new oil or gas fields.

A flow of 6,500,000 feet daily of Berea gas from the Charles E. Weller No. 1 Crandall, NW SW NE section 10-20n-4e, Clayton Township, Arenac County, aroused some interest but little excitement as it is a diagonal southeast offset to the discovery Berea gasser in that area where a new oil discovery last week officially was rated at 1,147 bbls. daily in the Dundee. It was planned to case off the gas and drill to the Dundee for oil in the Crandall well.

McClanahan Oil Co. continued to deepen No. 1 Mee, NE SE SW section 11, same township, which missed a possible first pay near the top of the Dundee as the nearest completed of 18 projects either under way or located since the new oil discovery by the McClanahan Oil Co. in the No. 1 C. W. Seignious, Jr., SE SW SE section 3, Clayton Township. The Mee well is about a mile southeast of the discovery well and was drilling at more than 60 feet in the Dundee. The Seignious well was completed at 51 feet in, with 15 feet of pay.

Central Drilling Co. this week may test the Dundee in No. 1 Fisk, SW NE SE section 16-19n-4e, Deep River Township, Arenac County, a mile east of a wildcat that struck shows of oil both in Traverse and Dundee but failed to produce.

Two new locations were placed under permit in Arenac County last week as follows: The L. E. Doyle No. 1 Shurmons, NW NW NW section 24-20n-4e, Clayton Township, and the J. E. Flanigan No. 1 Whipple, NW NW NE section 18-20n-5e, Mason Township.

Winfield—Montcalm

Though not yet completed, the Daily Crude Oil Co. No. 1 Weatherby, SW SW SE section 20-12n-9w, the new Winfield Township, Montcalm County discovery well near Howard City, last week flowed about 40 bbls. in 24 hours between the casing and tubing. Completion was delayed by a fishing job caused when a swabbing tool dropped off the cable. The well has been acidized and is expected to result in commercial production as well as to attract new drilling operations, though none as yet have been announced.

The Winfield discovery is considered one of the most important discoveries of the year as it found commercial pay in the Monroe and is producing 48-gravity crude at a total depth of 3,324 feet, 13 feet in the formation topped at 3,311 feet. Last week it broke loose and flowed wild for a short time pouring 48 bbls. into the tank within an hour. It has an estimated flow of 300,000 feet of gas with the oil. The swab was lost about 100 feet in the tubing.

Not only independents but several major operators are checking the area for the possibilities of a new central Michigan field, the fourth in as many months.

Sherman—Isabella

Ten tests were active in the new Sherman Township, Isabella County area, where Pure Oil Co. recently brought in the No. 1 Embrey as a 900-bbl. discovery in the Dundee directly north of the Broomfield Township, Isabella County gas field. But none were due for completion until next week or later.

Several of the nine tests started following the discovery of what is now known as the North Vernon Township area in Isabella County may be completed within two weeks indicating which direction the field will extend from the Chartiers Oil Co.'s successful wildcat. Two new locations were made last week in the area by Hyatt and Norton, the No. 1 Gatehouse, SW SW SW section 36-15n-6w and the Charles Strange No. 1 Bartlett, SE SW SW section 34.

Saginaw Test

Jaenicke Oil Co. acidized No. 1 Moulton, SW NW SW section 31-12n-2e, in Richland Township, Saginaw County, developing about 10 bbls. daily, but finally decided to plug and abandon the test as non-commercial in the Dundee.

Monitor Oil Co. had drilled more than 100 feet into the Dundee in No. 1 Turnwald, SE SE NE section 32-9n-4e, Maple Grove Township, Saginaw County in which the Dundee was topped at about 2,630 feet, but no show had been encountered. C. W. Teater No. 1 Kilbourne and others, NE NE NE section 35-12n-1e, Jonesfield Township, reported dry last week, was being plugged and abandoned at 3,276 feet.

Hubbell Oil Producing Co. was completing No. 1 Schwinger, NW NE SW section 5-11n-6e, Frankenmuth Township, Saginaw County.

Gladwin County

M. F. Whitehill had 1,000 feet of oil in the hole in the No. 3 King, SW SE NW section 2-17n-2w, in the Beaverton Township, Gladwin County pool and was acidizing with expectation of commercial though light production.

Completions

J. W. McIntosh completed No. 1 Susie Collins, C N N SE NE section 19-15n-3w, Denver Township, Isabella County, for 40 bbls. a day at a total depth of 3,639 feet, just 33 feet in the Dundee topped at 3,606 feet.

Michigan Cities Natural Gas Co. abandoned in the Red Rock the No. 1 Bacome, W S NW section 19-13n-4w, as an unsuccessful wildcat in Lincoln Township, Isabella County. Thirty other tests were listed either drilling, moving in, rigging or locations in Denver, Gilmore, Sherman, Union and Vernon Townships in Isabella County setting a record for activity since the Vernon and Leaton pools were under intensive development about 6 years ago.

Ogemaw County

Durham & Jones completed No. 2 Hugh Allen, SE NW SE section 20-22n-2e, West Branch Township, Ogemaw County for 50 bbls. a day from the Dundee at 2,547 feet. Three other West Branch tests had struck oil in the Dundee and were completing with prospects of commercial production in the proved field. They were: Morris-Barnes Oil & Gas Corp. No. 6 Golf Course, NW SE SW section 20; Frank A. Balcer No. 1 Morris, SW NE SW section 25 and the William Kerr and Stanley See No. 3 Fisk Brothers, NE SW SW section 27, all in West Branch Township. Hogan, Inc., also was nearing Dundee completion of the No. 1 Addison and Mary, NW NW SW section 19, West Branch. Eighteen other tests were listed in Ogemaw where operators are hurrying to complete the bulk of their drilling before heavy winter weather sets in. Ogemaw is one of the more bleak Michigan fields in winter.

Gassers

Wolverine Natural Gas Corp. completed the largest gasser in Michigan No. 1 Searles, C SW SW section 2-12n-7w, Belvidere Township, Montcalm County, in the Tri-Townships field, when it was gauged flowing 33,000,000 feet daily.

Clarence E. Larson completed No. 1 Price, C SE NE section 5-10n-4w, in the New Haven Township, Gratiot County field, for an initial flow of 3,000,000 feet daily.

Operators were watching two near completions seeking oil in the Gratiot County gas field. They were Ithaca Exploration Syndicate, SW SW NW section 10-10n-3w, Newark Township and the Herbert Snell, SW SW SE section 20-11n-4w, the latter of which was to be cased at about 3,180 feet. This test passed up a Michigan Stray gas flow to seek oil. The former topped the Dundee at 3,170 feet after casing 20 feet higher and was drilling with a show of oil at 3,174 feet. Thirteen other tests were listed for the county.

West Michigan Consumers has a new 1,017,000-foot initial flow Berea gasser, No. 1 Sperry and others, C NE section 8-9n-14w, Ravenna Township. Two other tests were expected to be completed this week, one in the Michigan Stray sands and the other in the Traverse.

Crystal—Montcalm

In the Crystal field Cryden Petroleum Corp. acid-treated No. 4 Husted in Crystal Township, increasing its output from a dwindling 30 bbls. a day to 152 bbls. in 12 hours, or an estimated 250 bbls. a day.

Midland County

Two wells, one in Greendale Township and the other in Porter, were full of oil and treating with acid with prospects of completion this week as commercial producers in the Dundee.

They were: The E. Schelling No. 1 Scott, NW SE NW section 8-14n-2w, Greendale and the Pure No. 26 Narmore, SW SE NE section 16-13n-1w, Porter. Rex Oil & Gas Co. also was completing the No. 2-B Howland, NE NW SW section 23, Porter Township, in the Dundee.

Wildcats

Lester V. Hemp will abandon No. 1 Potter, NE NW SW section 36-32n-6e, in Long Rapids Township, Alpena County, shut down for many weeks at 240 feet, it was reported.

Charles Strange completed a shallow "duster" on Cockburn Island, just across the False Detour channel from Drummond Island where F. D. Barton and others have been shut down for months on the No. 1 Kreetan Co., SW NW SW section 17-41n-7e, Drummond Township, Chippewa County, in the Upper Peninsula, now expected to be completed soon. It is 960 feet deep. The abandoned test topped the Trenton at 992 feet and was drilled to 1,212 feet before abandonment on the Canadian Island. Two more tests are planned.

Four tests are active in Clare County where a revival of interest is under way in Grant, Hamilton and Lincoln Townships, but none were near completion last week. Charles W. Teater also is drilling two tests in Huron County, one in Dwight and the other in Oliver Township, over in the Thumb district.

The Jacob Beck No. 1 Fee, NW NW SE section 10-6s-3w, Fayette Township, Hillsdale County, in central southern Michigan, had been drilled 190 feet into the Trenton without a show of oil or gas last week. Socony-Vacuum Co., Inc., also was drilling in the Trenton at more than 2,400 feet in the No. 1 Russell, C S S section 25-5s-5e, Macon

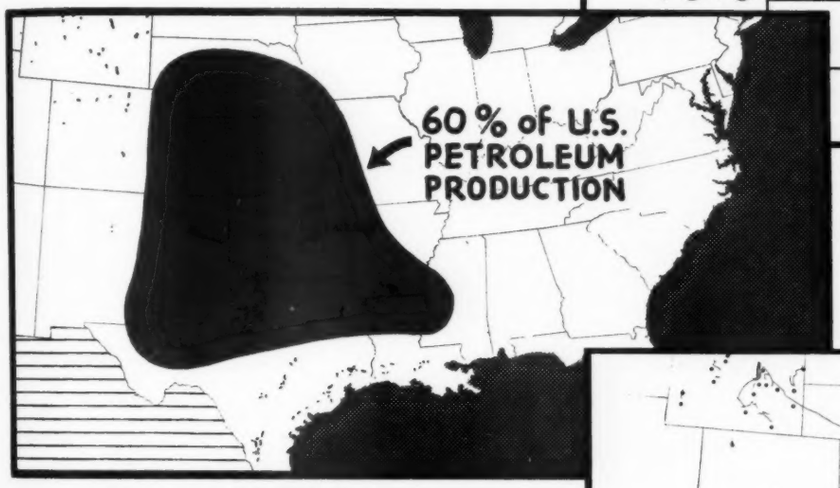
(Continued on Page 81)

4 REASONS WHY TULSA *is a city of* EXCEPTIONAL STABILITY

1 OIL MOST STABLE INDUSTRY

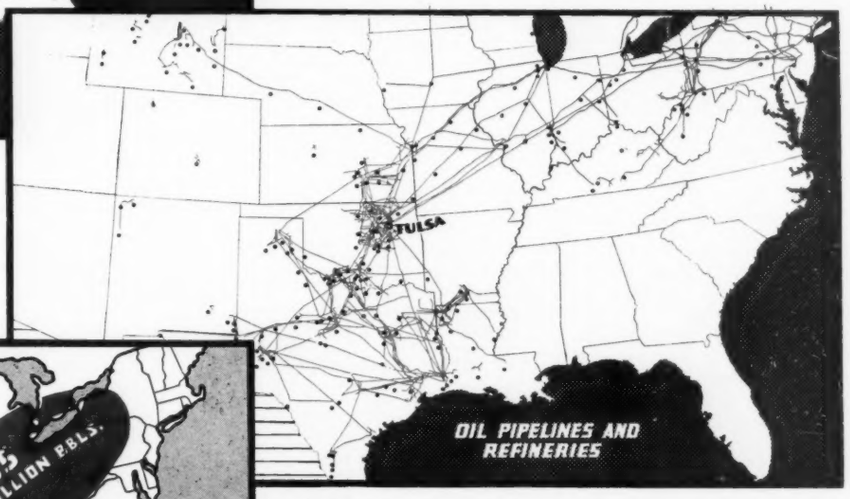
While Tulsa is not a "one industry" city, but has many important industries — petroleum is known to be the backbone of Tulsa's economic structure. This gives Tulsa probably *a greater economic stability than that of any other American city,* for oil, through the depression, proved the most stable of all the industries, as reflected by both wholesale and retail figures.

Retail sales for filling stations, in 1933, were only 14% below 1929 sales. This compared with a decrease of 37% for the food group, 55% for the apparel group, and 49% in the total of all retail sales.



2 FOCUS OF RICHEST OIL AREA

The Mid-Continent's position in petroleum is stronger today than when it first gained for Tulsa the title of World's Oil Capital. The Mid-Continent produces 60% of the nation's oil, 40% of the world's oil. Tulsa is headquarters city for this great industry, with 400 oil companies and 54 drilling contractors located here. These companies have a huge investment in Tulsa property.



3 PIPE LINE, REFINING HUB

Tulsa's location, as the map shows, has made her the hub of the nation's great pipe line and refining network. Nearly all of the major pipe lines pass within a few miles of Tulsa, and many are managed and controlled from Tulsa offices. Three great refineries are located at Tulsa, and the Mid-Continent and Gulf Coast do 46% of the nation's oil refining.

4 AT CENTER OF OIL RESERVES

Those who imagine the end of petroleum is in sight are ignorant of the fact that known reserves are increasing much faster than the totals of oil produced. In 1925 U. S. known reserves were 5 billion barrels. 9 billion barrels have since been produced in this country, yet known reserves today are 12 billion barrels. Tulsa's position with relation to reserves is as central as its position with relation to actual production. The Mid-Continent contains more than half of the nation's known reserves.

Manufacturers locating in Tulsa can figure they will be at the center of petroleum activity for many years to come. For information write the Industrial Department of the Tulsa Chamber of Commerce.

TULSA

Oil Capital of the World

Texas and Louisiana Gulf

By F. L. SINGLETON

TEXAS COAST DEEPEST WELL PLUGGED BACK AND FINISHED

HOUSTON, Tex., Dec. 14.—Additional development was assured the Hitchcock Prospect in southern Galveston County as Shell Petroleum Corp. completed No. 1 Maco Stewart for a small oil producer at a plugged-back depth of 5,170 feet. Perforations were made in the 9⅝-inch casing with 10 holes from 5,120-30 feet and on a 24-hour gauge the well flowed 24 bbls. of 34-gravity oil through a quarter-inch choke with tubing pressure 1,950 pounds and casing pressure 2,000 pounds. When the well was washed in it was making an estimated 3,000,000 feet of gas daily with a slight spray of distillate, but after connecting up the separator its production has shown a daily increase and the fluid gradually turned to crude oil.

This test, the deepest ever drilled on the Texas Gulf Coast, reached a depth of 10,460 feet where it showed considerable gas pressure, but due to heaving shale, which is believed to have collapsed the casing at 8,978 feet, this section of the hole was lost, causing the operators to plug back and test the present sand which was indicated on an electrical coring test.

No. 1 Maco Stewart is located southwest of the Dickinson field in the J. Spillman Survey and is believed to be producing from the Miocene sand. Geophysical work indicated this prospect to be a deeply seated structure, which was fairly well substantiated by the well showing gas at 10,456-60 feet. Future development, however, depends largely upon the reaction of the discovery well.

Polk County

Along the Cockfield trend in southeastern Polk County, preparations were being made for a drill-stem test at J. K. Dorrance No. 1 Sarah Wings, located in section 15, I.&G.N. Survey, after several showings of oil and gas were encountered in the Upper Cockfield sand at 5,155-60 feet. Shale with streaks of sand with a gas odor was cored from 5,155-60 feet and from 5,160-62 feet, 8 inches of sandy shale with streaks of sand with gas odor and a fair cut of oil was recovered. Other cores having gas and oil odors were taken from 5,162-65 and at 5,165-67 feet. Shale was cored from 5,767-70 feet.

Due to the numerous showings encountered in the upper section of the Cockfield and the fact that the well is reported to be checking over 100 feet high, its chances of making a well in the lower section are encouraged.

Silsbee Prospect

Another area which has attracted much attention is the Silsbee Prospect, Hardin County, where Republic Production Co. and Houston Oil Co. are drilling plug preparatory to testing No. 3 fee, 700 feet southwest of No. 1 fee, which blew out, caught fire and cratered several weeks ago after making a drill-stem test of the Cockfield sand. No. 3 fee is bottomed at 6,979 feet with 7-inch casing cemented at 6,946 feet. The relief well, No. 2 fee, west of the cratered hole, which made a disappointing drill-stem test from 6,963-89 feet, has plugged back, sidetracked and is drilling in shale and lime below 6,000 feet.

In the northeastern part of the Hastings field, Brazoria County, W. L. Goldston's No. 2 fee, an outpost, topped the sand at 5,990 feet and casing is being run after the hole was cored to a depth of 6,088 feet. This will be the second producer to be completed by the operator, who has added considerable acreage to the field and is responsible for the recent purchase by Gulf Oil Corp. of a 385-acre tract located about a mile northeast of the field.

Approximately 2½ miles south of production of the Cotton Lake field, Chambers County, Salt Dome Oil Corp. No. 1-A Varuna Lawrence, located in the Solomon Barrow Survey, is coring for the Frio sand below 6,500 feet. This test is 3,500 feet west of the company's No. 2 Lawrence, which for a short time produced oil from 6,651-60 feet before going to salt water. Based on the top of the Marginulina sand, No. 1-A Lawrence is over 200 feet structurally higher and should encounter the sand the first part of the week. To the north at Cotton Lake, R. W. Fair and others have abandoned No. 1 Ben Dutton at 6,407 feet. It is southeast of production in the A. B. J. Winfree Survey. To the northeast in the Jacob Townsend Survey, Glenn H. McCarthy's No. 5 Kilgore flowed 200 bbls. per day through a 11/64-inch choke from a depth of 6,304 feet, while his No. 6 Kilgore has been completed at 6,306 feet, although no gauge is available.

Van Vleck Completions

Two completions and one interesting outpost test were announced for the Van Vleck field, Matagorda County. Skelly Oil Co. No. 12-B Cobb was completed through perforated casing at 7,485-93 feet for an initial production of 334 bbls. in 21 hours through a three-sixteenths inch choke, while No. 13-B Cobb flowed 790 bbls. per day through perforated casing at 7,481-87 feet, through a quarter-inch choke with tubing pressure 1,275 pounds and casing pressure 1,125 pounds. North of the field about a mile, Mayo and Smith & McDannald have made location for No. 1 E. L. Calhoun, located in the David Rawls Survey.

At the Spanish Camp Prospect, Wharton County, Felmont Oil Corp. is preparing to test a gas sand cored in a sidetracked hole at 2,986-3,015 feet. The hole was originally drilled to 8,085 feet, where a stuck drill stem resulted in a fishing job which the operators were unable to clean up. In the Magnet field, locations were made by Texas Crusader Oil Co. to be drilled 500 feet from the discovery well, while to the east C. E. McDonald will drill No. 1 Evelyn Sweet, south of No. 1, which blew out, caught fire and cratered.

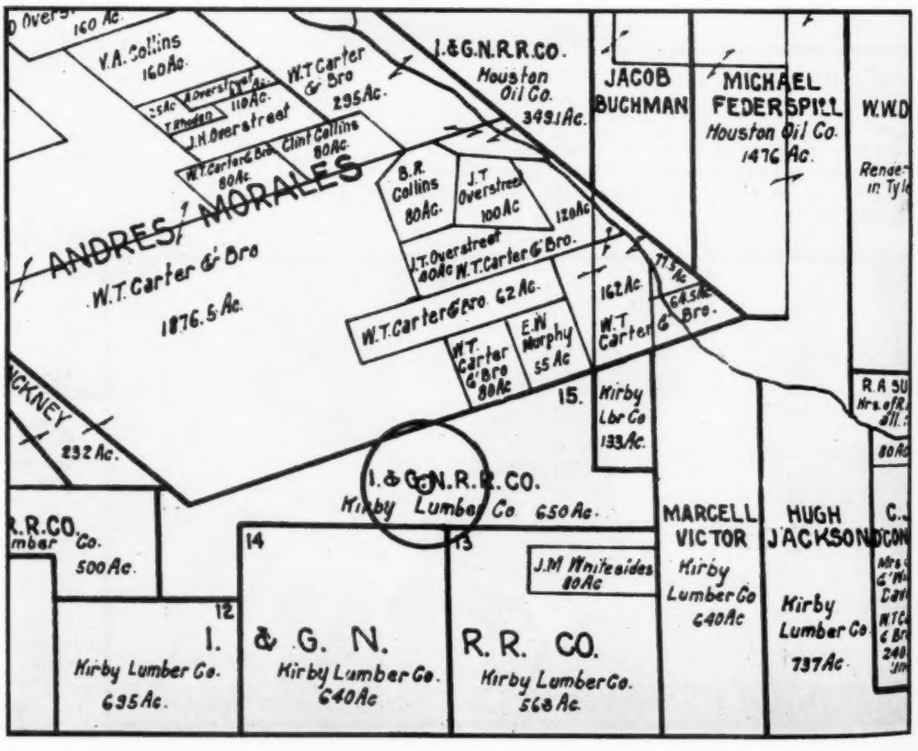
Sun Oil Co. is waiting favorable weather conditions before moving in casing to test No. 2 Hebert and Broussard, located at the LaBelle Prospect in Jefferson County, which is bottomed in 12 feet of sand at 8,217 feet.

Amerada Petroleum Corp. and Stanolind Oil & Gas Co. have made location for No. 2-C Dopslauf at the Fairbanks field, Harris County. It is 933 feet south of No. 1-C in the W.C.R.R. Survey, Block 1.

Dickinson Field

At the Dickinson field, Galveston County, Humble Oil & Refining Co. No. 12-A Maco Stewart, located in the South extension area in the W. K. Wilson Survey, is flowing an estimated 30 bbls. of oil per hour through a quarter-inch choke from a total depth of 8,602 feet. The sand was topped at 8,582 feet and 7-inch casing was cemented at 8,580 feet. In the northern part of the field, Kensco Corp. No. 1 Stran cored sand showing distillate at 8,005-15 feet, and sand showing oil at 8,063-68 feet. Seven-inch casing was cemented at 8,029 feet. Location is in the J. S. Sherman Survey.

East of production in the South Houston field,



Southeastern Polk County, location of J. K. Dorrance No. 1 Sarah Wings, which is preparing to test at 5,170 feet after finding several showings of oil and gas in the Upper Cockfield section. (W. W. Zingery, Maps, Houston)

Harris County, Tysco Oil Co. is digging pits for No. 1 Christy Brothers, H. C. Burnett Survey. Two completions were reported for the field by Stanolind Oil & Gas Co. No. 1 District 11 was completed in the Miocene sand at 3,970 feet and flowed 268 bbls. in 19 hours through a quarter-inch choke with tubing pressure 250 pounds and casing pressure 300 pounds, while Drilling District No. 47 flowed 256 bbls. per day through a quarter-inch choke from the Oligocene sand at 4,775 feet.

In the same county, but on the old Hockley salt dome, Stanolind Oil & Gas Co. have made location for No. 1 John Warren Minerals, located 1,800 feet from the east line and 2,150 feet from the south line of the H.T.&B. Survey No. 1. Numerous tests have been drilled on this old dome, but so far none has opened commercial production.

Offsetting Glenn McCarthy's production in the Amelia field, Jefferson County, Stanolind Oil & Gas Co. No. 1 Sargl was completed at 6,103 feet, flowing 11 bbls. pipe line oil a day through quarter-inch choke, with tubing pressure 1,000 pounds and casing pressure 1,150 pounds. To the southeast in the Nome field, Sun Oil Co. No. 3 Paggi flowed 155 bbls. per day through a 11/64-inch choke with casing pressure 1,875 pounds and tubing pressure 1,325 pounds. The hole is bottomed at 6,052 feet with 7-inch casing at 6,005 feet. Location was made by the company for Nos. 4 and 5 Paggi in the J. W. Kirby Survey.

Sun Oil Co. No. 2 Craig, located on the flank of the Hawkinsville dome, Matagorda County, is drilling in shale and lime below 2,153 feet after passing out of the salt at approximately 2,099 feet which was topped at 793 feet. This well is 2,100 feet southeast of No. 1, which was completed for a small well several months ago.

Coastal Louisiana

The most interesting developments in the Coastal Louisiana district the past week was the purchase made by the Pan American Production Co. of a half interest and operating control of approximately 26,000 acres in the Charenton field in St. Mary Parish. The deal was made with Mike Hogg and associates and involved a cash consideration and a number of free wells. The deal included the discovery well, No. 1 Laws Realty Co., recompleted last week for a good well. It was originally completed at a corrected depth of 7,208 feet and after it began to show salt water it was cored to a depth of 7,215 feet and recompleted through perforated casing from 7,198-7,203 feet. Location has been made for No. 2 Laws Realty Co. and a rig is being moved in.

North of the Houma gas field, Terrebonne Parish, Humble Oil & Refining Co. No. 1 H. J. Ellender, located in section 23-19s-19e, was holding attention in that area as casing was being run. The hole is bottomed at 8,757 feet, and it is believed that the casing is being cemented as a protection string, although a drill-stem test made from 8,200-35 feet showed 6 gallons of distillate and 750 pounds of pressure.

In Vermilion Parish, Continental Oil Co. No. 1 O. C. Hebert, located on the Abbeville Prospect is coring in shale below 11,761 feet in a sidetracked hole and has not encountered the sand which attempted to blow out in the original hole from 11,727-32 feet. To the southeast, Stanolind Oil & Gas Co. No. 1 Stovall is coring ahead in shale with no shows reported at 9,276 feet. An electrical coring test was run from 9,015-9,180 feet, but the results are not known.

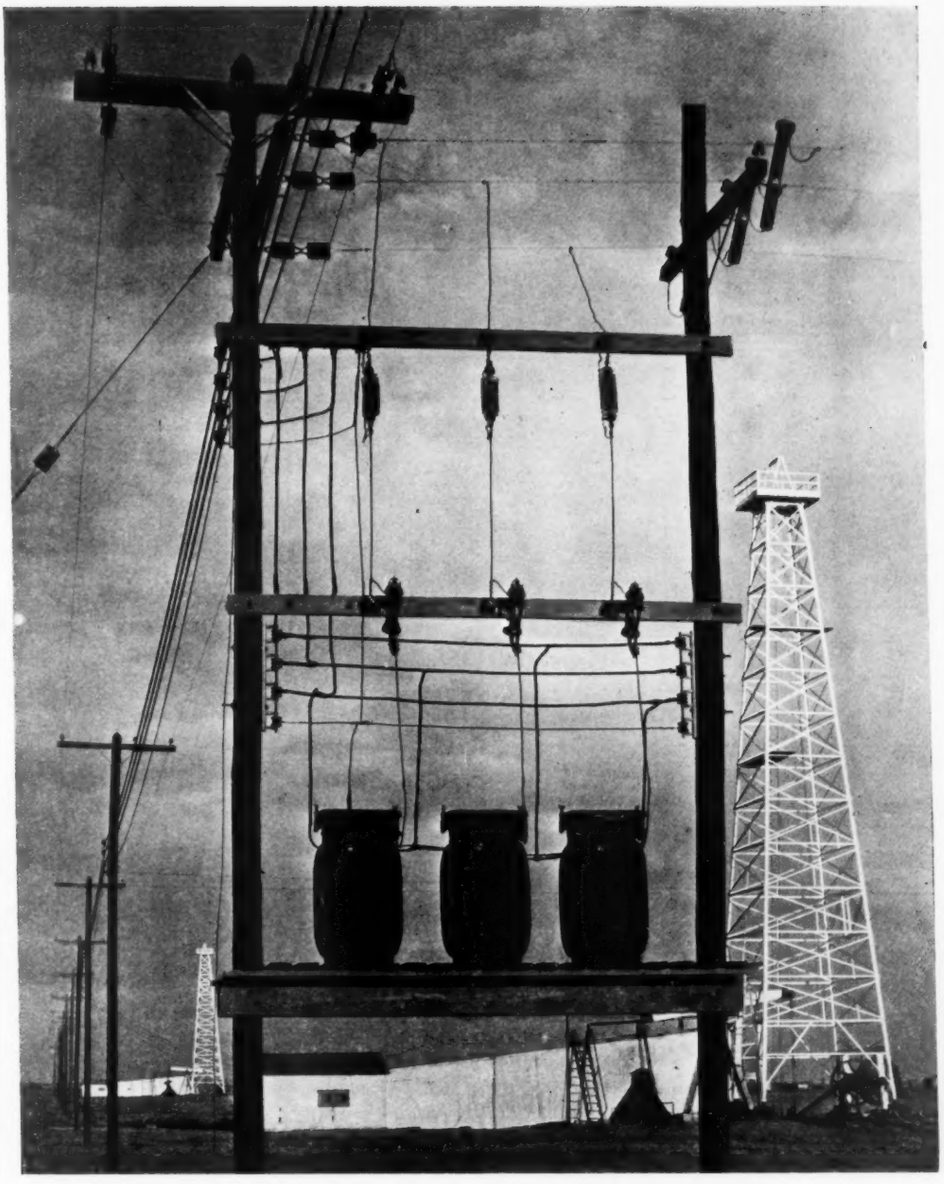
Two completions and three locations were reported for the Tepetate field in Acadia Parish by the Continental Oil Co. No. 1 L. J. Ortego in section 29 flowed 361 bbls. per day through a 5/32-inch choke, while No. 2-B Young flowed 241 bbls. per day through a quarter-inch choke from a depth of 8,318 feet. New locations included No. 1-D and 2-D Homeseekers Development Co. in section 29 and No. 1-A Young in the same section.

Gillis Extended

Although no gauge was reported, Fohs Oil Co. No. 1 Powers extended the Gillis field in Calcasieu Parish several hundred feet to the west when it was completed through perforated casing in oil sand from 7,026-62 feet, the total depth. Location is in section 14-9s-8w.

On the west flank of the Jennings field, Acadia

(Continued on Page 81)



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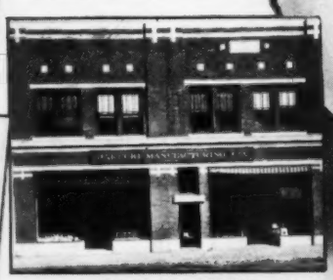

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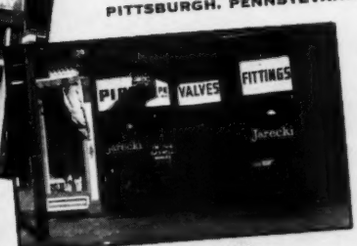
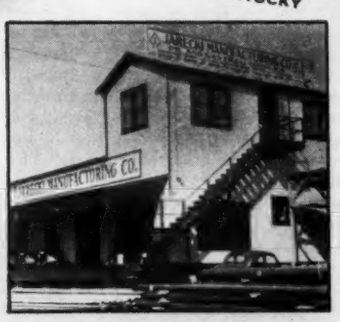


WOOSTER, OHIO

WILLOW SPRINGS, TEXAS

KILGORE, TEXAS



RODESSA, LOUISIANA

NEWARK, OHIO

Eastern Field Report

By STAFF CORRESPONDENT

400-BARREL WELL IN RITCHIE COUNTY EXTENDS NEW FIELD

PITTSBURGH, Pa., Dec. 14.—Five Oriskany-sand gas wells were completed in West Virginia and one test in Southwest Pennsylvania in that formation is a dry hole and another in Southeast Ohio, just in the formation, is showing for a gas well.

Interest in the deep tests continues high but it is offset this week with a completion in Clay district, Ritchie County, West Virginia, which may be an extension of a recently developed pool. The West Turn Oil Co. completed a test on the A. J. Glass farm in the Injun sand at 2,016 feet. It produced 400 bbls. the first day. This is northwest of the straight line Injun-sand streak known as the Lost Run or Ellenboro pool, which was a prolific producer several years ago with wells starting at 1,000 bbls. a day.

Completions for the week were high and totaled 48, of which only 9 were dry holes, 24 gas wells and 15 producers with an initial production of 723 bbls. per day.

SOUTHEAST OHIO

In section 28, Madison Township, Columbiana County, Southeast Ohio, Natural Gas Co. of West Virginia is drilling 4 feet in the Oriskany sand, topped at about 4,400 feet in the Finegold test, and it is showing a small volume of gas. The test will be shut down to shore up the rig and casing will be run before drilling it in.

In Coshocton County, Kundtz Hulse and others completed No. 4 R. L. McKee in section 17, Perry Township, in the Clinton sand at a depth of 3,156 feet. It produced 90 bbls. the first day after shot.

In Athens County, Brooks Johnson completed a test on the Walter Snow farm in Fraction 34, Rome Township, in Maxon sand at 931 feet. It is a gas well gauging 50,000 feet a day. In Fraction 5, Trimble Township, Ohio Fuel Gas Co. drilled a second test on the Sunday Creek Coal Co. lease through the Clinton sand to 4,362 feet and it was dry.

In Belmont County, Shay McMullen completed deepening the test on the Nick Dyken farm in section 26, Richland Township, from the Salt sand at 1,150 feet to the Berea sand at 1,866 feet. It is a gas well from the Berea gauging 1,500,000 feet a day.

In Hocking County, the Kachelmacher Estate completed a No. 3 Nelsonville Coal and Land Co. lease in section 19, Ward Township, in Cinnamon sand at 2,200 feet. It is a gas well gauging 168,000 feet a day.

In Licking County, Rutledge & Mossholder Oil and Gas Co. completed No. 5 Teagarden, in section 15, Perry Township, in Berea sand at 728 feet. It produced 4 bbls. the first day after shot.

In Meigs County, Leroy Holmes and others drilled a dry hole on the J. Byers farm in the central part of Lot 1,184, Lebanon Township, through the Berea sand to 2,091 feet.

In section 25, Coal Township, Perry County, the Kachelmacher Estate completed No. 15 on the Hemlock Coal Co. lease in the Clinton sand at 3,640 feet. It produced 65 bbls. the first day after shot and is located 850 feet west of No. 13.

SOUTHWEST PENNSYLVANIA

The Oriskany test of the American Natural Gas Co. and the T. W. Phillips Gas and Oil Co. on the Paul Fanker farm, 1 mile north of Zelienople in Butler County, found no gas in the 27 feet of Oriskany sand and it is being plugged.

The Carnegie Natural Gas Co. is within a few feet of the Oriskany sand on the Heichel farm in Slippery Rock Township, Lawrence County. The top of the Corniferous lime was at 4,563 feet and at 4,694 feet there was a change to a sandy formation which was passed through and the test is now drilling at 4,720 feet.

In Independence Township, Beaver County, Laughner Oil and Gas Co. and American Natural Gas Co. test on the William Wilsman farm has drilled by the tools stuck and cemented in at 4,906 feet. The depth is now about 4,930 feet. The test of the Wittmer-Phillips on the Perry S. Davis farm in Franklin Township, Butler County, 1 mile south of Prospect, will spud this week.

On Chestnut Ridge in South Union Township, Fayette County, the deep test of William Snee and others on the Summit Hotel property, is again in trouble. The hole is caving badly which caused the loss of a sand pump, dump pipe and bailer. Cleaning out is progressing slowly at 4,500 feet, due to additional caving.

In Mount Pleasant Township, Washington County, Norwood Johnson and others are cementing in a new whipstock to drill by the lost tools which have been cemented in the test on the James McBurney farm at a depth of 6,170 feet. Drilling will be resumed at less than 6,000 feet.

Completions

One producer, three gas wells, and two dry holes were reported in Southwest Pennsylvania during the week. In Amwell Township, Washington County, the Union Gasoline and Oil Corp. completed a second test on the Martha Hazlett farm which is showing for 35 bbls. a day. The total depth was 3,007 feet with the top of the Fifth sand at 2,978 feet and oil pays at 2,978-84 feet and 2,989-92 feet.

In Donegal Township, Washington County, the Cushing Brothers and Co. completed a gas well in the Dunkard sand at 990 feet on the J. M. Miller farm. It gauges 75,000 feet a day. In Independence Township, F. W. Finley and others drilled a test on the J. R. McAdams farm through the Fifth sand to 2,650 feet and it was dry.

In Beaver County, R. B. Abrams drilled No. 9 Clara Walton Cook and others in Greene Township, through Berea sand. It was dry in all formations.

In Greene County, North Eastern Gas and Oil Co. completed No. 2 F. Burley and T. B. Ward, in Springhill Township at 3,235 feet as a gas well. The Gordon Stray sand was at 3,225 feet with 1,250,000 feet of gas at 3,230-35 feet. In Perry Township, the Peoples Natural Gas Co. completed deepening the No. 1,963 on the C. H. Lemley farm at 3,396 feet. The Fourth sand was at 3,080-94 feet; the Bayard sand at 3,244-64 feet with 325,000 feet of gas at 3,246 feet.

In Amwell Township, Washington County, additional work is scheduled. Benedum and Trees have a location on the John Russell 12-acre tract next to the N. B. Redd farm on which there are two gas wells. Wise Oil and Gas Co. is in the top of the Fifth sand on the James Dunn farm and it is showing for a producer. The South Penn Oil Co. is down 2,225 feet in No. 3 J. Q. Zimmerman. Union Gasoline and Oil Corp. is drilling at 1,050 feet on the M. Varner farm, and 135 feet on the A. O. Vankirk farm. Same company made a location on the J. H. and Sarah Weaver farm. The Manufacturers Light and Heat Co. is down 1,800 feet in the No. 2 on the Rankin farm.

WEST VIRGINIA

Five Oriskany gas wells were completed in Kanawha County during the week. The largest was the test of the United Carbon Co. on the S. H. Milam farm in Poca district which was completed at a total depth of 5,169 feet and has a volume of 5,239,000 feet a day before shot.

In Elk district, Godfrey L. Cabot, Inc., completed the test on the Robert L. Bibby farm east of the Wingfield farm at 5,193 feet. It has a volume of 5,160,000 feet a day after shot. Columbian Carbon Co. completed the test on the Maggie Given farm as a gas well in the Oriskany sand at 5,084 feet. It has a volume of 5,263,000 feet a day with a rock pressure of 1,650 pounds.

In Malden district, Kanawha County, Godfrey L. Cabot, Inc., had two completions. The second test on the Plus R. Levi farm was completed at a depth of 5,183 feet and it has a volume of 806,000 feet a day after shot and the No. 4 on the Nellie B. Tompkins farm was bottomed in the Oriskany sand at 4,545 feet. It gauges 880,000 feet a day after shot.

Several additional tests are drilling in the Corniferous lime and will soon be completed. The latest to reach the top of that formation was the test of the Columbian Carbon Co. on the Genevieve Minsker farm which struck it at 4,926 feet and is now drilling at 5,030 feet. The test on the C. C. Fisher farm being drilled by the Brawley-Reid Oil and Gas Co. is drilling at 4,822 feet, or 80 feet in the lime.

In the outside deep tests, none are close to the sand. The deep test of Glen W. Roberts being drilled on the Roberts Oil Co. lease on the Burning Springs anticline in Burning Springs district, Wirt County, is drilling at 4,100 feet. Godfrey L. Cabot, Inc., has the five deep tests started in Wirt and Calhoun counties shut down at present. In Roane County, Godfrey L. Cabot, Inc., is down 4,400 feet in the deep test on the T. F. Smith 879-acre farm in Geary district.

Other Completions

There were nine oil wells completed in West Virginia during the week. In Calhoun County, the Richter Oil Co. completed No. 8 on the E. P. Haught farm in Sheridan district in the Salt sand at a depth of 1,832 feet and it started off at 18 bbls. a day. In this district, the Metz Farm Oil Co. completed No. 3 on the Peter Metz farm in the Salt sand at 1,725 feet. It is good for 10 bbls. a day, initially.

In Gilmer County, the Louie Oil and Gas Co. completed a second test on the Harriett Gainer farm in DeKalb district in the Maxon sand at 1,883 feet. It is showing for 5 bbls. a day.

In Jackson County, the Mountain Iron and Supply Co. completed No. 4 on the J. W. Kelley and others farm in Washington district in the Salt sand at a depth of 1,658 feet. It is good for 15 bbls. a day.

In Kanawha County, the Pure Oil Co. completed No. 265 on the Williams Coal Co. lease in Cabin Creek district as a Berea sand producer good for 10 bbls. a day.

In Pleasants County, Dinsmoor and Co. completed No. 9 C. J. Huggins in McKim district in the Cow Run sand at 750 feet. It is good for 2 bbls. a day.

In Ritchie County, the South Penn Oil Co. completed No. 18 on the Haught Lambert farm in Murphy district in the Maxon sand at 1,907 feet. It is good for 25 bbls. a day. In this district, T. N. Hanley completed a test on his own property in the Injun sand at 2,215 feet and it is showing for 5 bbls. a day. In Grant district, A. R. Kelley and others completed a test on the

(Continued on Page 69)

The RATIGAN No. 115 ONE-PIECE FRAME TYPE OIL-LESS BEAM HANGER

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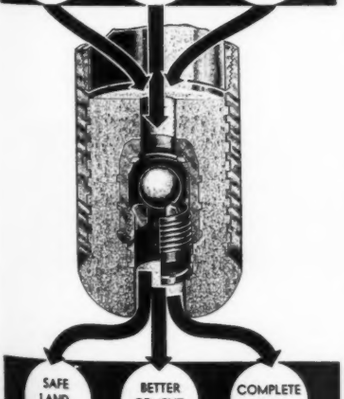

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THESE 3 RESULTS
BAKER CEMENT EQUIPMENT

Among Gulf Coast Drilling Contractors

H. J. Dearman received contract the past week for an interesting wildcat to be drilled on the Sandy Point Prospect in Brazoria County for C. B. Bunte, and he has one active rig located at the Bosco field for the Standard of Kansas.

Cron & Gracey opened a new field for the Gulf Coast district by the completion of Shell Petroleum Corp. No. 1 Maco Stewart which is flowing 24 bbls. per day from a plugged-back depth of 5,170 feet. This well attracted much attention, having reached a depth of 10,460 feet, making it the deepest well ever drilled on the Texas Gulf Coast.

Edwards Drilling Co. received contract from the Texas Crusader Oil Co. for that company's second well at the Magnet field in Wharton County which will be drilled 500 feet from the discovery well. Surface casing has been cemented on Sam Harrison No. 1 Horak, a wildcat situated on the Needville Prospect in Wharton County.

Harry L. Edwards completed No. 4 Maco Stewart in the Dickinson field for Coast Petroleum Co., and the rig will be moved to another location for the same company.

George Echols is preparing to drill a second well in the extension area of the Quintana-O'Connor field in Refugio County, opened last week by the completion of Josey & Bruton No. 1 Lambert. Contract was also received for another wildcat near the town of Tivoli in Refugio County for the Circle W Oil Co. Fohs Oil Co. No. 3 Ada May, in the Gillis field, has been completed for a commercial well, and the rig has been moved to another location.

Smith & McDannald will move a rig in the near future to Matagorda County where they will drill an important outpost test north of the Van Vleck field for themselves and Mayo.

There were 24 new locations announced for the Gulf Coast district the past week. Four were made in the Hastings field by Stanolind Oil & Gas Co. and Humble Oil & Refining

(Continued on Page 99)

The following is a summary of operations by the various contractors at the end of the week:

Contractor and location—	No rigs	Company	Status
Nichlos Drlg. Co.:			
Tepetate	2	Continental Oil Co.	Drilling
Lafourche Parish	1	Pan American Prod. Co.	Drilling
Rutherford Drlg. Co.:			
Van Vleck	2	Skelly Oil Co.	Completed
L. W. Capps:			
Rabbs Ridge	1	L. W. Capps	Drilling
Cron & Gracey:			
Aransas County (Wild)	1	Barnsdall Oil Co.	Drilling
Roanoke	1	Shell Petroleum Corp.	Drilling
Iowa	1	Shell Petroleum Corp.	Drilling
Manvel	1	Texas Co.	Drilling
Galveston County	1	Shell Petroleum Corp.	Completed
Flour Bluff	1	Humble Oil & Ref. Co.	Drilling
South Houston	1	Stanolind Oil & Gas Co.	Drilling
Edwards Drlg. Co.:			
Fort Bend County (Wild)	1	Sam Harrison	Drilling
Hidalgo County	1	McCollum Expl. Co.	Drilling
Magnet	1	Texas Crusader Oil Co.	Rigging up
Harry L. Edwards:			
Dickinson	1	Coast Petroleum Co.	Completed
Ben (Bud) Coyle:			
Jeanerette	3	Herton Oil Co.	Drilling
H. J. Dearman:			
Bosco	1	Standard of Kansas	Workover
Brazoria County (Wild)	1	C. B. Bunte	Rigging up
George Echols:			
Placedo	1	Commonwealth Oil Co.	Completed
Live Oak County	1	Sun Oil Co.	Drilling
Gillis	1	Fohs Oil Co.	Rigging up
Quintana-O'Connor	1	Josey & Bruton	Rigging up
Refugio County (Wild)	1	Circle W. Oil Co.	Rigging up
Loffland Bros.:			
Tepetate	2	Continental Oil Co.	Rigging up
Rowan Drlg. Co.:			
East Baton Rouge Parish	1	Texas Crusader Oil Co.	Drilling
Plaquemines Parish	1	Tidewater Oil Co.	Shutdown
Refugio County (Wild)	1	Tidewater Oil Co.	Abandoned
Smith & McDannald:			
South Houston	2	Stanolind Oil & Gas Co.	Drilling
Louise	1	Pure Oil Co.	Testing
Conroe	1	Smith & McDannald	Drilling
Bosco	1	Superior Oil Prod. Co.	Drilling
Sorrento	1	Pan American Prod. Co.	Drilling
Dickinson	1	Pure Oil Co.	Testing
Liberty County (Wild)	1	Mayo	Shutdown
East Hackberry	1	Superior Oil Prod.	Abandoned
Jennings	1	Shell Petroleum Corp.	Drilling
Lafayette Parish (Wild)	1	Shell Petroleum Corp.	Drilling

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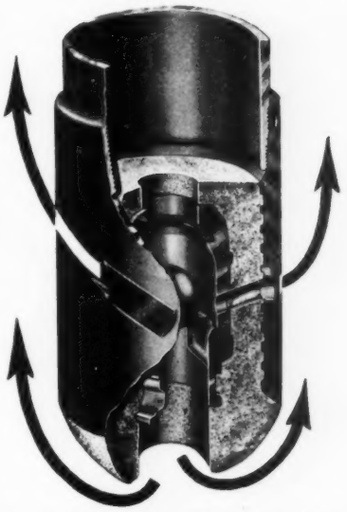

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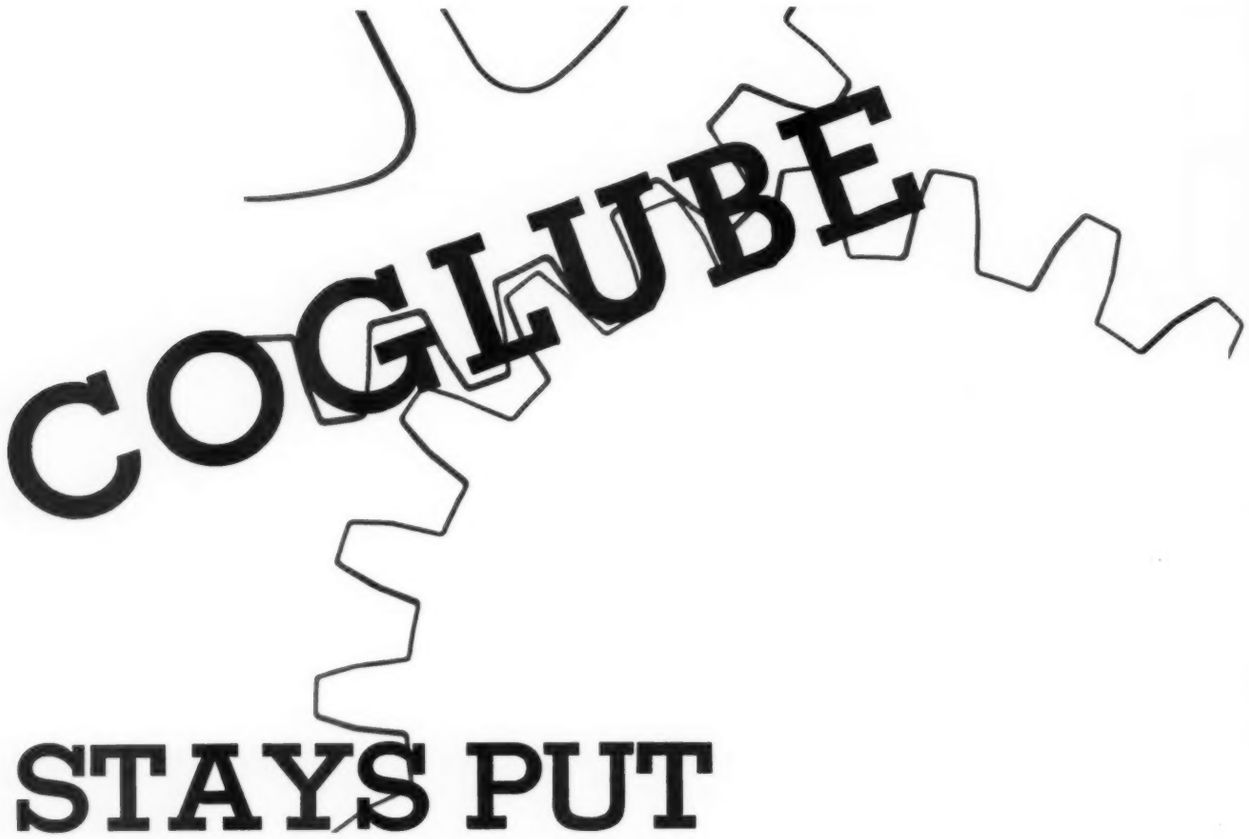

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Casper
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Lovell
Lusk
Medicine Bow
Rawlings
Thermopolis
Worland

Oklahoma Operations

By
DAL DALRYMPLE

TRIO OF NEW MOORE WELLS TAP RICH WILCOX SAND PAY

The Moore field of Cleveland County again featured Oklahoma oil news with three more gushers the past week, following completion of Carter Oil Co.'s big extension producer the previous week. Newest of the big wells is Sinclair Prairie Oil Co. and others No. 2 Franklin, SE SE SE section 21-10-2w, on the discovery lease. It cleaned out over the top after heading when workmen had bailed down 1,700 feet, and production was estimated from 30,000 to 35,000 bbls. daily. It was shut in for potential test later. It was structurally high in Wilcox sand topped at 7,246 feet; total depth, 7,297 feet.

Sinclair Prairie Oil Co. and others No. 1 Strauss, SW SW SW section 22-10-2w, on the east side of the field, was given a potential rating of 30,063 bbls. of oil, with 67,000,000 feet of gas, following test near the week-end. Same operators' No. 1 Holmes, NE NE SE section 28-10-2w, flowed an estimated 500 bbls. of oil in one hour after bridge was knocked out. On a previous test before bridging it flowed 774 bbls. in one and one-half hours, with 20,000,000 feet of gas.

A wildcat in the Oklahoma Panhandle was reported showing gas, and was a probable new pool opener in that section of the state. It was Allison & Barnhill No. 1 Bingley, SE SE NW section 30-2-18e, Texas County. It had sweet gas at 2,661 feet: an increase at 2,698-2,701 feet; sour gas at 2,745-50 feet, total depth. Production was estimated at 2,000,000 feet daily.

Operators were preparing to deepen Indian Territory Illuminating Oil Co. and Foster Minerals Corp. No. 1 Hatler, SW SW NE section 32-2s-17w, Tillman County wildcat, which was bottomed at 3,808 feet, after plugging back from 3,814 feet, where water intruded. It swabbed 75 bbls. of oil and 1,827 bbls. of water in 15 hours. It was expected to be deepened to Arbuckle lime if oil in profitable quantities is not found above it.

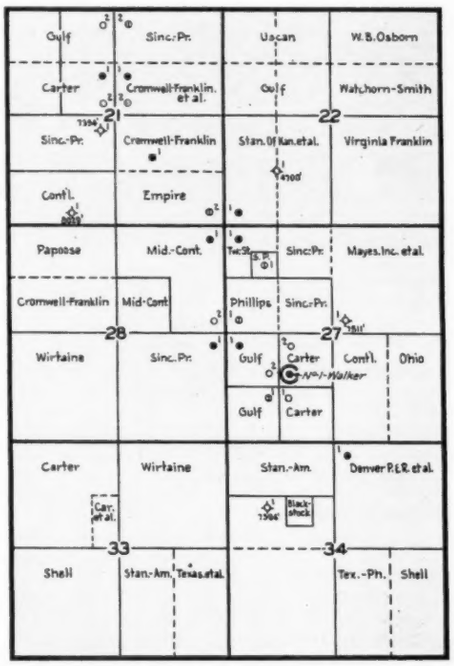
Oklahoma allowable production for December was fixed at 595,350 bbls. of oil daily by the Corporation Commission. This was 28,350 bbls. more than recommended by the Bureau of Mines, and an increase of 36,950 bbls. daily over the November allowable.

A total of 54 new wells were completed in all Oklahoma fields, including 43 oil wells, 1 gasser and 13 dry holes. The Fitts field, Pontotoc County, continued to set the pace for the state with 12 new oil wells.

First Reports

New work in Pontotoc County: Magnolia Petroleum Co. No. 3 Schaffer, NW SE NW section 25-2n-6, old well plugged back from 4,400 feet to 4,358 feet, standardizing; Amerada Petroleum Corp. No. 5 Wooley, NW SE SE section 21-2n-7, rigging up rotary; Magnolia Petroleum Co. No. 29 Metropolitan Life, SW SE section 22-2-7, rigging up rotary; Sinclair Prairie Oil Co. No. 13 Woolley, SE NW SW section 22-2n-7, moving in rig; H. L. Blackstock and others No. 4-A Moody, SE SW SW section 23-2n-7, location; Skelly Oil Co. No. 7 Metropolitan Life, SW SE SW section 23-2n-7, building rig; E. H. Moore and others No. 5-A Woodruff, NE NE SE section 29-2n-7, rigging up rotary; Loual Drilling Co. and Delaney No. 6-A Harden, SE NW NW section 30-2n-7, spudded; Mary F. Oil Co. No. 3 G. White, C E half NW SE section 16-5-8, spudded; Larsen and others No. 2 Robinson, NE SW SW section 23-5-8, rigging up machine.

H. L. Blackstock and others No. 6 Daniels, NE SE SW section 21-2n-7, flowed 989 bbls. of oil in three hours through casing and tubing after acidizing with 10,000 gallons, but was not completed. It was bottomed at 3,851 feet. Magnolia Petroleum Co. No. 7 M. Norris, NW SW SE section 21-2n-7, was bottomed at 3,846 feet, and flowed 168 bbls. of oil net through tubing in one hour. Blackstock and others No. 4 Moody, SE SW SW section 23-2-7, total depth, 4,360 feet; acidized with 15,000 gallons, and flowed 495 bbls. gross in the first hour through casing, and 176 bbls. the next two hours through tubing. Carter Oil Co. No. 9 G. Smith, NW NW SW section 28-2n-7, drilled to 3,534 feet; acidized with 8,000 gallons and flowed 706 bbls. of oil through tubing in four hours. Several other Fitts wells were nearing completion.



Southeast extension of the Moore field, Cleveland County, is a current Oklahoma "hot" spot. Carter Oil Co. No. 1 Walker, section 27-10-2w, made potential of 30,024 bbls. to extend gusher production.—(Mid-Continent Map Co., Tulsa)

Pontotoc County

Fleetborn Oil Corp. No. 6 Morin, NW SE SE section 20-2-7, was one of 12 oil wells completed in the Fitts field of Pontotoc County. It made potential of 3,208 bbls. of oil after acidizing with 4,000 and 12,000 gallons. Top of Viola lime was 4,030 feet; Bromide, 4,290 feet; total depth, 4,350 feet.

Other Fitts completions: Stahl Petroleum Co. No. 6-B Dennis, NE SW SW section 21-2-7; Hunton, 3,591 feet; Sylvan shale, 3,943 feet; total depth, 3,946 feet; flowed 980 bbls. through casing and tubing in two hours. Akin Oil Co. No. 2 Daniels, SE NE SW section 21-2-7; Viola, 4,096 feet; Bromide, 4,312 feet; total depth, 4,317 feet; acidized; flowed 520 bbls. in two hours, casing; potential, 663 bbls. E. H. Moore and others No. 1 Burris, SE NW SE section 22-2-7; Viola, 4,140 feet; Bromide, 4,415 feet; McLish, 4,600 feet; total depth, 4,616 feet; plugged back to 4,475 feet; potential, 413 bbls. of oil. Sinclair Prairie Oil Co. No. 6 Woolley 'A," SW cor. section 22-2n-7, twin well; Hunton, 3,449 feet; total depth, 3,550 feet; acidized; flowed 993 bbls. of oil in three hours, tubing and casing. Same operator's No. 1 Woolley "A," NE SW SW section 22-2n-7; Viola, 4,006 feet; Bromide, 4,260 feet; total depth, 4,376 feet; acidized; flowed 720 bbls. of oil in two hours, casing and tubing; potential, 3,123 bbls.

Skelly Oil Co. No. 1 Metropolitan Life, SW SE SW section 23-2n-7; Viola, 3,997 feet; Bromide, 4,260 feet; total depth, 4,370 feet; acidized; potential, 1,739 bbls. Phillips Petroleum Co. No. 1 Bates, SW NE NW section 26-2n-7; Viola, 3,944 feet; Bromide, 4,170 feet; McLish, 4,349 feet; total depth, 4,355 feet; acidized three times; flowed 564 bbls. in one hour, casing; potential 1,474 bbls. Sinclair Prairie Oil Co. No. 16 Burris, NW NE NW section 27-2n-7; Hunton, 3,402 feet; total depth, 3,505 feet; acidized; flowed 841 bbls. in two hours, tubing and casing. Magnolia Petroleum Co. No. 12 Burris "A," SW SW NW section 27-2n-7; Hunton, 3,282 feet; Sylvan, 3,594 feet; total depth, 3,598 feet; flowed 482 bbls. in two hours, tubing and casing. Same operator's No. 8 D. Harden, NE NW NE section 30-2-7; Viola, 3,995 feet; Bromide, 4,260 feet; total depth, 4,374 feet; flowed 44 bbls. of oil in 24 hours; acidized; flowed 530 bbls. in five hours, tubing. Loual Drilling Co. and W. A. Delaney No. 2-A D. Harden, SE SW NW section 30-2n-7; Hunton, 3,345 feet; Sylvan, 3,649 feet; total depth, 3,650 feet; acidized; flowed 559 bbls. in three hours, casing and tubing.

King, Delaney & Hall No. 6 Gilmore, C W half SE NE section 29-5-8, had Allen sand at 857-903 feet, and was dry and abandoned at 930 feet, total depth.

Franks Brothers No. 1 Abbott, SW NW NE section 34-3n-6, wildcat, was an abandoned rig.

Cleveland County

Carter Oil Co. completed No. 1 Walker, SW NE SW section 27-10-2w, gusher in the Moore pool, Cleveland County, after it made official 24-hour potential of 29,984 bbls. of oil. It flowed 5,276 bbls. of oil on four-hour test, producing 3,748 bbls. in the last three hours. Gas averaged 41,550,000 feet. Production was from second Wilcox sand, topped at 7,295 feet; total depth, 7,302 feet. It extended the pool to the southeast.

Stauffer Petroleum Co. and others No. 1 Bruce, NE SE NE section 20-10-2w, was an abandoned rig.

Four new tests in the Moore area were reported. Sinclair Prairie Oil Co. and others No. 2 Peaches "B," NE NE NW section 21-10-2w, was digging pits; same operator's No. 2 Rice "A," SE SE NE section 28-10-2w, was digging cellar and pits; Gulf Oil Corp. No. 2 James, SE NW SW section 27-10-2w, was moving in tools; Carter Oil Co. No. 1 E. C. Hall, NW SE SW section 27-10-2w, was a location.

Anderson-Prichard Oil Corp. No. 1 State, SW SW SE section 16-10-2w, total depth 7,254½ feet, flowed 734 bbls. of oil, with 8,311,000 feet of gas, in the last 24 hours. Sinclair Prairie Oil Co. and others No. 1 Strauss Community, SW cor. section 22-10-2w, total depth 7,273 feet, flowed 150 bbls. of oil in two minutes and was shut in for separators. Opened later, it flowed 1,033 bbls. and 880 bbls. in two hours, respectively, and 479 bbls. in one-half hour. Gas averaged 109,553,000 feet. Same operator's No. 1 Holmes, NE NE SE section 28-10-2w, topped second Wilcox sand at 7,250 feet; total depth, 7,273 feet, and was estimated good for 1,000 bbls. of oil an hour, with 40,000,000 feet of gas.

Denver Producing & Refining Co. No. 1 Keller, NW NW NE section 34-10-2w, southeast of Moore production, drilled to 7,409 feet, total depth; plugged back to 7,312 feet. After last acid treatment it flowed 160 bbls. of oil in two hours, cutting 8 to 10 per cent. It was shut in awaiting tanks.

Seminole County

Four oil wells were completed in Seminole County, the largest being Creekmore & Wolf, Inc., No. 2 Campbell, NW cor. section 20-9-7, East Seminole area. It pumped 240 bbls. of oil, with some water, in 24 hours, after shooting, acidizing and plugging back. Production was from Hunton lime topped at 4,001 feet; total depth, 4,276 feet, where it had a hole full of water; plugged back to 4,240 feet.

Magnolia Petroleum Co. No. 1 fee, SW cor. section 9-9-7, topped Cromwell sand at 3,448 feet; total depth, 3,485 feet; shot with 20 quarts and swabbed 220 bbls. of oil in 48 hours. Sinclair Prairie Oil Co. No. 4 Thompson, SE SE SW section 18-9-7, topped Hunton lime at 4,045 feet; total depth, 4,117 feet; acidized and pumped 78 bbls. of oil and 128 bbls. of water in 24 hours. Barnsdall Oil Co. and others No. 6-A M. Sango, NW SW NW section 1-9-5, swabbed 211 bbls. of oil in 24 hours from Wilcox sand at 4,254 feet; total depth, 4,265 feet.

Exchange Drilling Co. No. 3 Mills, NE NE SE section 19-9-7, an old well, was deepened from 2,278 feet to Calvin sand at 2,390-2,415 feet, where it had a hole full of water, and was abandoned at 2,418 feet, total depth.

The following new work was reported in Seminole County: Sinclair Prairie Oil Co. No. 3 Ames "B," NW NW SW section 7-5-8, building rig; Paul Traugh No. 1 Williams, NE SE NE section 22-6-6, wildcat, set 12-inch casing at 60 feet; Oklahoma Oil Corp. No. 1-A Gaines, NE SW SW section 20-6-7, wildcat, cellar; H. E. Kennedy No. 1 Bowlegs, NW NW SE section 3-8-7, building rig; Oklahoma Oil Corp. No. 2-A Carter, C S half NE SE section 23-9-6, moving in rig; Rogers Oil & Gas Co. No. 2 W. Stubbs, NE NW SW section 16-9-7, rigging up rotary; Magnolia Petroleum Co. No. 2 fee, SE SW SW section 9-9-7, building rig; Carter Oil Co. and others No. 6 Aldridge, NE NE NW section 35-11-6, building rig.

Okfuskee County

J. A. Chapman No. 6 Cudjo, NW SE SE section 25-10-8, Okfuskee County sector of the Olympic pool, topped Senora sand at 1,707 feet; total depth, 1,751 feet; shot with 60 quarts and flowed 653 bbls. of oil through tubing in 24 hours, completed.

Other completions in the Senora sand district of southwestern Okfuskee County: Sinclair Prairie Oil Co. No. 2 Fisher, SE NE SW section 19-10-9; Senora sand, 1,769 feet; total depth, 1,850 feet; shot; pumped 5 bbls. of oil in 24 hours. J. A. Chapman and Atlantic Refining Co. No. 3 Natchee, NE NW SE section 19-10-9; Senora sand, 1,722-92 feet; total depth, 1,801 feet; shot; pumped 27 bbls. of oil in 24 hours. Ark Royalty Co. No. 3 Palmer, NW SE NE section 19-10-9; Senora sand, 1,750-97 feet; total depth, 1,810 feet; pumped 18 bbls. of oil in 24 hours. Same operator's No. 1 Parsons, SE SW NE section 18-10-9; Senora sand, 1,860 feet; total depth, 1,905 feet; shot; flowed 202 bbls. of oil in 24 hours.

Manahan Oil Co. and J. J. Deaner No. 1 Hale, SE cor. section 13-10-8, had Senora sand at 1,895 feet; total depth, 1,906 feet; swabbed 47 bbls. of oil and 400 bbls. of water in 20 hours, and was abandoned.

Pure Oil Co. No. 4 Rentie, NE NW NE section 26-12-11, an old well, was deepened from 2,642 feet to Wilcox sand at 3,560-86 feet, total depth, flowed 386 bbls. of oil in 24 hours and was recompleted.

New work in Okfuskee County was as follows: J. J. Deaner No. 1 Schultz, SE SE NW section 18-10-9, set 10-inch casing at 41 feet; Chapman & McFarlin No. 1 Yarbrough, SW SE NE section 18-10-9, waiting on cement at 45 feet; Ark Royalty Co. No. 3 Fisher, NW NE SE section 18-10-9, set 10-inch casing at 39 feet; same operator's No. 4 Fisher, NE NW SE section 18-10-9, spudded; Mid-Continent Petroleum Corp. No. 1 Hale, SE SW NE section 25-10-8, rigging up rotary; Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 4 Carolina, NW SE SW section 31-10-9, drilling at 807 feet.

Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending December 12, and for the preceding week, was as follows:

	Barrels	
	Dec. 12	Dec. 5
Allen	7,650	7,600
Burbank	8,050	8,150
South Burbank	15,300	15,250
Balance Osage	21,000	21,100
Blackwell district	5,175	5,200
Bristow-Slick	8,150	8,125
Chandler	3,675	3,700
Crescent	9,175	9,050
Cromwell	3,450	3,475
Cushing-Shamrock	10,675	10,750
Duncan district	3,975	3,950
Edmond	15,425	9,375
Fish	7,200	7,100
Fitts	65,475	60,600
Gray	1,400	1,475
Graham	5,075	5,125
Healdton	9,775	9,875
Hewitt	4,575	4,625
Holdenville	975	975
Keokuk	6,925	6,725
Konawa	1,825	1,600
Lucien	12,500	12,350
Marshall-Lovell	675	700
Oklahoma City	164,900	113,575
Olympic	11,700	11,975
Papoose	975	950
Polo	2,325	2,425
Sasakwa and townsite	2,850	2,625
Sholem-Alechem	3,300	3,275
Seminole:		
Bowlegs	11,950	11,875
Carr City	6,075	6,150
Earlsboro	6,275	6,225
South Earlsboro	750	775
East Earlsboro	8,675	8,950
Little River	11,625	11,295
East Little River	1,050	1,100
Maud	850	800
Mission	2,250	2,150
Seminole	9,375	9,650
East Seminole	4,250	4,200
Searight	4,925	5,050
Total Seminole	68,050	68,850
St. Louis-Pearson	22,750	22,400
Tatums	3,600	3,650
Tonkawa-Garber-Thomas	5,525	5,575
Wewoka	3,850	3,825
Yale-Jennings	4,025	4,000
Other pools	70,250	69,100
Total Oklahoma	592,200	529,100

Oklahoma County

One oil well was completed in the Oklahoma City field and two in the Edmond pool of Oklahoma County. British American Oil Producing Co. No. 1 Goddard, SW SE SW NW section 23-12-3w, Oklahoma City, topped second Wilcox sand at 6,425 feet and was bottomed at 6,470 feet. It flowed 325 bbls. of oil in 12 hours on gas lift; was shot, made potential of 1,849 bbls. of oil on gas lift.

Slick-Urschel Oil Co. No. 5 Suneram, SE NW NE section 6-13-3w, Edmond field, topped Simpson dense at 6,445 feet; second Wilcox sand, 6,655 feet; total depth, 6,685 feet. It flowed 1,510 bbls. of oil in four hours and made potential of 9,058 bbls.

Blackstock Oil Co. No. 2 Tegtmyer, SE NE SE section 36-14-4w, on west side of Edmond field, topped Simpson formation at 6,493 feet; first Wilcox sand, 6,617 feet; second sand, 6,694 feet; total depth, 6,698 feet. It flowed 970 bbls. of oil in four hours and made potential of 5,817 bbls.

New work in Oklahoma County was as follows: Sunray Oil Co. and Phillips Petroleum Co. No. 12 State, SE NE NW section 27-12-3w, rigging up rotary; Phillips Petroleum Co. No. 5 Stiles, NE NE NW section 34-12-3w, building rig; same operator's No. 6 Stiles, SE NW NE section 34-12-3w, location; Champlin Refining Co. No. 1 Cato, SE NE NE section 35-12-3w, rigging up rotary; Frank Buttram and others No. 1 Zielny, NW SE SE section 20-13-3w, digging cellar and pits; Texas Pacific Coal & Oil Co. No. 1 Tegtmyer, NE SE SE section 36-14-4w, location.

Osage County

Two oil wells were completed in the South Burbank area, Osage County. Carter Oil Co. and others No. 7 Higdon, SE SW NE section 3-25-6, topped Bartlesville sand at 2,713 feet; total depth, 2,797 feet, 2 feet below base of sand; and flowed 415 bbls. of oil in five hours, with 7,000,000 feet of gas. Magnolia Petroleum Co. and Empire Oil & Refining Co. No. 4 Bonto, SW SE NW section 23-26-6, flowed 1,251 bbls. of oil in 12 hours after a shot. It had Bartlesville sand at 2,884-2,964 feet; total depth, 2,970 feet.

Continental Oil Co. and Gulf Petroleum Corp. No. 5 Mason, SW SW NW section 22-24-7, Naval Reserve area, had Bartlesville sand at 2,465-2,564 feet; total depth, 2,572 feet; was shot and flowed 25 bbls. of oil in 24 hours.

Ohio Osage Oil Co. and others No. 6 Osage, NE cor. section 17-21-9, pumped 18 bbls. of oil, with a show of water, after a shot in sand at 263-295 feet, total depth, and was completed.

Oklahoma Natural Gas Corp. No. 1,845 Osage, C W half W half NW section 13-21-10, had a hole full of water and was dry and abandonel at 2,196 feet, total depth.

Johnson Oil Refining Co. No. 4 Osage, SW NW SW section 17-21-9, had a hole full of water in sand at 502-515 feet and was abandoned.

Philtex Oil Co. No. 60 Osage, SW SE NW section 22-25-12, had Bartlesville sand at 1,347-1,440 feet, total depth, and pumped 5 bbls. of oil and 35 bbls. of water, completed.

New work in Osage County: Gulf Oil Corp. No. 1 Bearcat, NW cor. section 20-22-10, old well, preparing to deepen; Evert Adams and others No. 6 Osage, SW NE SE section 5-22-11, old well, preparing to deepen; Barnsdall Oil Co. No. 13 Osage, SW cor. section 17-23-12, location; Lewis Production Co. No. 11 Wilson, SW NE NE section 28-24-7, building rig; Mead Oil Co. No. 5 Osage, NE NW NE section 22-24-8, location.

Kay County

Max Kelley No. 1 W. Johns, NW cor. section 35-27-4, Kay County wildcat, was dry and abandoned

The winners of the Superintendent's Gold Cup at the recent Shell golf tournament and barbecue held at the Ojai County Club, in California, where more than 100 Shell production, refining and marketing men foregathered from Oilfields, Bakersfield, Santa Maria, Long Beach, Ventura, Wilmington-Dominguez and Los Angeles. The mighty golfers representing the Wilmington refinery made the tough Ojai course in 535, are Wally Larsen, Curtis Williams, Bill Young H. Stanley

at 3,160 feet, total depth. It topped Bartlesville sand at 3,036 feet; based it at 3,218 feet.

Two new wildcats in Kay County were reported. Helmerich & Payne No. 1 Constant, SW SW NE section 17-28-2w, was rigging up rotary. Black Gold Petroleum Corp. No. 2 Cooley, SW SW SE section 25-28-4e, was a location.

Garfield County

Ohio Oil Co. No. 1 Smythe, NE NE SW section 23-22-4w, deep wildcat test in the Garber area, Garfield County, swabbed 25 bbls. of oil and 25 bbls. of water in an eight-hour test, but was dry and abandoned at 5,449 feet, total depth, after plugging back to 2,365 feet. First Wilcox sand was topped at 4,968 feet; second Wilcox sand, 5,070 feet; Tyner series, 5,193 feet; Arbuckle lime, 5,358 feet.

Arab Oil Co. No. 1 Hackendorf, NE cor. section 34-20-3w, was location for a wildcat in southeastern Garfield County, west of the Lucien pool.

Lincoln County

Hilton Phillips No. 2 Graham, NW SW NW section 2-14-3, Lincoln County, topped Bartlesville sand at 4,363 feet; total depth, 4,391 feet; was shot; pumped 85 bbls. of oil in 24 hours, completed.

Magnolia Petroleum Co. No. 5 Telford, SW SE SE section 7-14-4, an old well, was deepened from 4,972 feet to second Wilcox sand at 5,005-14 feet, total depth, flowed 369 bbls. in 24 hours, recompleted.

Summitt Drilling Co. No. 1 Eakers, NE NE SW section 35-15-2e, the only new operation in Lincoln County, was drilling at 600 feet.

Pottawatomie County

Peru Oil & Gas Co. No. 1-B Vinson, NW SE NE section 13-7-4, Pottawatomie County, had dug cellar and pits. Mid-Continent Petroleum Corp. No. 1 Logan, NE NE SE section 31-11-5, wildcat, was moving in rig. Commercial Drilling Co. No. 1 Brandenburg, NE SW NE section 3-7-4, an old well, deepened from 4,060 to 4,084 feet, and was underreaming.

Hughes County

Manahan Oil Co. No. 6 Dixon "C," NE cor. section 12-9-8, Olympic area, Hughes County, missed Senora sand and was dry and abandoned at 1,822 feet, total depth.

Noble County

Phillips Petroleum Co. No. 3 O'Neil, SE SW SE section 16-23-2w, Billings pool, Noble County, topped Wilcox sand at 4,234 feet; total depth, 4,263 feet. After running tubing, it flowed 370 bbls. of oil in seven hours, cutting 4½ per cent water, and made potential of 695 bbls.

New work in Noble County: Phillips Petroleum Co. and Shell Petroleum Corp. No. 4 McCaughtry, SW NE NE section 21-23-2w, digging cellar; same operators' No. 5 McCaughtry, SE SW NE section 21-23-2w, location; same operators' No. 1 Hackett, NW NE SE section 21-23-2w, location.

Creek County

Helvie & Stout No. 6 Land, SE cor. section 2-18-11, Bowden area, Creek County, had Red Fork sand at 1,530-51 feet, total depth, was shot and pumped 12 bbls. of oil per day, completed. Freeland and others No. 2-A Carman, SE NE NE section 25-17-8, North Bristow area, had Jones sand at 1,433-64 feet, total depth, pumped 20 bbls. of oil per day, completed.

Freeland and others No. 1-A Carman, SW SE NE section 25-17-8, an old well deepening, was drilling at 1,502 feet; Nabob Oil Co. No. 1-A Smith, SE SE NW section 30-14-8, was building rotary rig; M. S. Hughes No. 4 Flinchum, SE NW SW section 11-19-9, an old well deepening, was drilling at 2,340 feet; Vierson and others No. 3 Cooper, C W half NW NE section 20-17-10, was bottomed at 600 feet, where water intruded.

Okmulgee County

J. Steighner No. 3-A Colbert, SE NE NE section 14-14-14, Okmulgee County, had Booch sand at 1,073-94 feet, total depth; was shot and pumped 5 bbls. of oil per day, completed.

New work in Okmulgee County: R. G. Ladd No. 2-B Stidham, SW SE NW section 27-15-14, location; Burns and others No. 3-A Ashley, SE SW NE NE section 30-14-14, spudded; Texas Co. No. 5 Grayson, NW SW NE section 35-16-11, old well being deepened, drilling at 2,700 feet; J. L. Selby No. 1-A Grayson, CWL NE NW section 3-14-14, drilling at 470 feet.

Tulsa County

S. W. Anthony No. 2-A Wilcox, NW cor. section 3-16-12, in the Independent pool, Tulsa County, had Wilcox sand at 2,258-76 feet, total depth, and flowed 120 bbls. of oil in 24 hours, completed.

Bu-Vi-Bar Oil Co. No. 1-A Thatcher, NE SE NE section 27-18-13, Jenks area, had sand at 575-87 feet, total depth, pumped 7 bbls. of oil per day and was completed. T. B. Kroger No. 2 S. Haikey, NE SE SE SE section 32-18-14, Broken Arrow area, had a bad hole and was abandoned at 1,545 feet, total depth.

Bu-Vi-Bar Oil Co. was rigging up machine for No. 2 Thatcher, SE SE NE section 27-18-13.

Muskogee County

Geier Brothers & Jackson No. 1-A Howard, CSL SW SW section 19-15-16, Muskogee County, had upper Dutcher sand at 1,162-1,243 feet, but was dry and abandoned at 1,260 feet, total depth. Same operators' No. 2-A Howard, NW SW SW section 19-15-16, had a fishing job at 1,180 feet, total depth.

Pawnee County

R. D. Davis No. 4 fee, SW NW NW section 21-21-8, Pawnee County, an old well being deepened, was drilling at 1,120 feet.

Coal County

W. A. Delaney and Choctaw Oil & Gas Co. No. 1-A Sawyer, SW SE NW section 7-1n-8, Coal County sector of the Jesse pool, had Wapanucka sand at 2,134 feet; total depth, 2,152 feet; produced 12,170,000 feet of gas and was completed.

Carter County

Carter Oil Co. No. 37 Ward, SE NE NW section 6-4s-3w, Healdton field, Carter County, had oil sand at 894-990 feet; total depth, 1,154 feet; plugged back to 1,140 feet, shot with 60 quarts, and

(Continued on Page 75)

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East and East Central Texas

By
L. E. BREDBERG

NEW TESTS FOR DEEP PAYS STARTED IN EASTERN TEXAS

DALLAS, Tex., Dec. 14.—The important feature in the East Texas district this week was the purchase of 2,620 acres of leases in the Talco field in northwest Titus and northeast Franklin counties by Byrd-Frost, Inc., Ralph E. Fair and Capt. J. F. Lucey, from the Gulf Oil Corp., a more extended account of which will be found in this edition.

There were only four oil wells completed in the Talco field in the past week, but 11 new starts were made.

Major companies holding leases in the Sulphur Bluff pool are apparently not anxious to start developments, one company, Gulf Oil Corp. having farmed out a large offset lease for development purposes, which will probably preclude the pipe line division of that large company from connecting to the field with a line from its Mid-Continent-Gulf Coast system which runs within about 2 miles of the pool. The Empire Oil & Refining Co. is the only major company starting operations in the field, having been forced to do so by offset producers of Hager, Luse and Russ.

The pool is only in its fifth month but only seven wells have been completed. Locations have been made for a number of tests, mostly by Hager and others, but only six wells are drilling. The low gravity, asphaltic-base crude and lack of pipe line outlet is responsible for the small amount of drilling activity in the field. Those holding acreage some distance from the wells now producing are not anxious to test their leases because of the possibility that they will miss the fault and also production. They seem content to let others carry on development radiating from the discovery, especially to the east and west along the fault plane, thereby seeking out the extensions and defining edges.

Wildcatting

During the week the Superior Oil Co. of California staked an interesting and important fault line Trinity test location on its Quinlan block in southern Hunt County. It is on the P. D. Paul lands in the Mary Latham Survey, 4½ miles northeast of Quinlan, and the test is expected to go to 6,000 feet unless oil is found in commercial quantities above that depth.

Showers and Moncrief of Fort Worth, and nearly all major companies and many independents have large holdings around this block which was taken the fore part of the year for a Trinity test, the area being one of the "hottest" in the fault line play created by the discovery of the Talco field. Another lively play was staged around the town of Campbell, also in Hunt County. The Stanolind Oil & Gas Co. is expected to start a test on its block in that area in the near future. The Stanolind block covers a large area between Campbell and Commerce in the northeastern part of the county. Fred Guthrie of Dallas assembled this block, Stanolind later shooting it with geophysical instruments and closing option with the intention of drilling a Trinity test.

Another Anderson Deep Test

The Tide Water Oil Co. and Seaboard Oil Corp. have staked location for their third deep test in Anderson County and their first for the Long Lake field, the field they discovered 3 years ago. This Trinity test will be put down on the Monning lands (Long Lake Plantation), in the Simon Sanchez Survey, southwest part of Anderson County. It will be 1,866 feet due north of the companies' No. 2 Monning and will be known as No. 7 Monning. It will be carried to 8,500 feet or 9,000 feet as the Trinity is expected to be found considerably deeper than where it is producing gas and distillate in two wells about 25 miles north in the Cayuga field, in the northwest corner of the county. One of the Cayuga wells was drilled to 7,300 feet and the other to 9,033 feet.

Fannin Activity

E. J. Hubbard and associates are planning on deepening No. 1 G. D. Galloway, in the W. M. Rice Survey, in southwest Fannin County, which was recently abandoned by the Valeria Oil Co. at a total depth of 3,520 feet. If assignments can be obtained on some 8,000 acres in the old block the test will be carried to a new total depth of 4,500 feet with a second test also to be drilled on the block. The block extends south and west of the town of Leonard.

Rains Results

The important deep test of the Humble Oil & Refining Co. and Tide Water Oil Co. on the Ora Lee Johnson Easter farm, 4 miles east of Emory, in the R. Hotchkiss Survey, logged top of the Paluxy this week at 6,079 feet, coring at 6,084-87 feet and recovering 3 feet of hard, tight, fine-grained sand, but not carrying any showing of oil or gas. This top was considerably higher than anticipated, which makes the test appear still more interesting and important. It is located on a large block on the eastern side of the county, and extending over into Wood County. Several dry Woodbine sand tests have been drilled in the area, but this is the first Trinity test, the previous tests lending sufficient geological information to make this structure look promising from a deep standpoint although it proved a failure from the shallower formation.

Failure

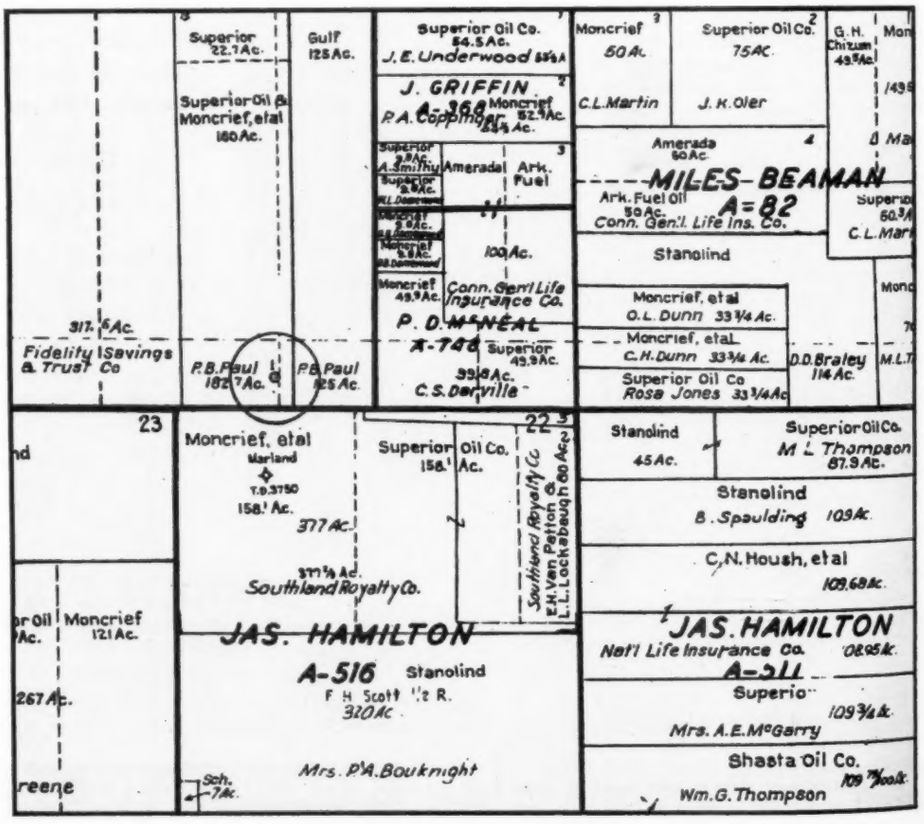
The Cosden Oil Corp. has abandoned its No. 1 Miller, wildcat test drilled to 5,410 feet in the Thomas Choffin Survey, in the southeast corner of Henderson County, about 15 miles southwest of Athens. This test was correlating similarly to the one drilled by the company in 1934 on the Hurt and Miller tract 1 mile to the east. It topped the Pecan Gap chalk at 3,220 feet; Austin chalk at 4,344 feet and the Woodbine sand at 4,898 feet. Elevation is 422 feet.

A. H. Bell and others staked location for a wildcat test on the C. L. Trice farm, in the F. Mayhan Survey, 1 mile east of Lott in Falls County. Rig is now being moved in on location for the test.

EAST TEXAS COMPLETIONS

Gregg County

Atlantic Refining Co. No. 15 Lee, 3,633-82 feet, 108 bbls. per hour. Humble Oil & Refining Co. No. 13 Castleberry, 3,448-51 feet, 20 bbls. per hour. Magnolia Petroleum Co. No. 18 Jones, 3,643-65 feet, 21 bbls. in 15 minutes: No. 7 Still, 3,531-55 feet,


Superior 22.7 Ac.
Gulf 125 Ac.
Superior Oil Co. 54.5 Ac. J. E. Underwood
J. GRIFFIN A-368 Moncrief 52.7 Ac.
P.A. Coppinger
Superior Oil & Moncrief, etal 180 Ac.
Moncrief 50 Ac.
Superior Oil Co. 75 AC
C.L. Martin
J. K. Oler
Amerada 60 Ac.
Ark. Fuel
MILES-BEAMAN A-82
Ark. Fuel Oil 50 Ac.
Conn. Gen'l Life Ins. Co.
Stanolind
100 Ac.
Conn. Gen'l Life Insurance Co.
P. D. McNEAL A-746
Moncrief, etal O. L. Dunn 33¾ Ac.
Moncrief, etal C. H. Dunn 33¾ Ac.
Superior Oil Co Rosa Jones 33¾ Ac
317.6 Ac.
Fidelity Savings & Trust Co
P.B. Paul 182.7 Ac.
P.B. Paul 125 Ac.
Superior 49.9 Ac.
C.S. Derville
D.D. Braley 114 Ac.
23
22
Moncrief, etal Marland T.D. 3750 158.1 Ac.
Superior Oil Co. 158.1 Ac.
377 Ac.
377½ Ac.
Southland Royalty Co.
Southland Royalty Co
E.H. Van Petten & L.L. Lockabaugh 60 Ac.
Stanolind 45 Ac.
Superior Oil Co. M. L. Thompson 87.9 Ac.
Stanolind B. Spaulding 109 Ac.
C.N. Housh, etal 109.68 Ac.
JAS. HAMILTON A-516 Stanolind F H Scott ½ R. 320 Ac
JAS. HAMILTON Nat'l Life Insurance Co. A-511
Superior 109¾ Ac.
Mrs. A.E. McGarry
Shasta Oil Co. 109¾ Ac.
Wm. G. Thompson
Moncrief 121 Ac.
267 Ac.
Mrs. P.A. Bouknight
Sch. 7 Ac.

Another important Trinity test in the East Central Texas district, to be drilled by Superior Oil Co., about 4½ miles northeast of Quinlan, on fault line in Hunt County—(Southwest Mapping Co. Fort Worth, Tex.)

20 bbls. in six hours on pump No. 9 Tate, 3,433-55 feet, 28 bbls. in 15 minutes. Selby Oil & Gas Co. No. 15-C Snavely, 3,576-86 feet, 80 bbls. per hour. Shell Petroleum Corp. No. 33 Moore, 3,566-70 feet, 21 bbls. in 15 minutes; No. 17-A Bivens, 3,544-76 feet, 30 bbls. in 30 minutes. Sinclair Prairie Oil Co. No. 15-A Aiken, 3,557-3,614 feet, 30 bbls. in 15 minutes; No. 24 Lawther, 3,524-28 feet, 15 bbls. in 25 minutes; No. 52 Moncrief, 3,565-3,600 feet, 30 bbls. in 15 minutes. Stanolind Oil & Gas Co. No. 16 Fenton, 3,593-3,622 feet, 14 bbls. in 15 minutes. J. G. Beard No. 6 Elder, 3,524-43 feet, 3½ bbls. per hour on swab. Central Commercial Oil Co. No. 9 King, 3,712-13 feet, 23 bbls. in 20 minutes through three-eighths inch choke. Max Ducol No. 2 Church Lot, 3,660-64 feet, 40 bbls. per hour. Gulf Oil Corp. No. 24 Holt, 3,570-92 feet, 60 bbls. per hour. Jones and others No. 6 Crim, 3,690-91 feet, 20 bbls. per hour. Sun Oil Co. No. 18 Reese, 3,698-99 feet, 64 bbls. per hour. Tide Water Oil Co. No. 30 Barton, 3,536-54 feet, 10 bbls. in 10 minutes.

Rusk County

P. Allen No. 6 Dickerson, 3,525-68 feet, 20 bbls. in six hours on pump. Royal Petroleum Corp. No. 6 Taylor, 3,570-3,620 feet, 20 bbls. in two hours on pump; No. 2 Dennis, 3,641-82 feet, 14 bbls. in seven hours on pump. Tide Water Oil Co. No. 11 Beall, 3,635-41 feet, 60 bbls. per hour. Atlantic Refining Co. No. 15-D Pinkston, 3,604-77 feet, 50 bbls. per hour. T. J. Carter No. 1 Pipps, 3,628-29 feet, 20 bbls. per hour. Chicago Oil Co. No. 5 Alford, 3,572-97 feet, 30 bbls. per hour. Georgian Corp. No. 2 Wood, 3,802-09 feet, 27 bbls. in six hours on pump. Gulf Oil Corp. No. 9 Alford, 3,779-82 feet, 10 bbls. per hour. Humble Oil & Refining Co. No. 9 Holt, 3,769-3,814 feet, 75 bbls. per hour; No. 61-A Kangerga, 3,680-3,715 feet, 55 bbls. per hour through 1-inch choke. Ohio Oil Co. No. 20 DeGuerin, 3,640-89 feet, 12 bbls. in 15 minutes. Stanolind and Pure Oil Co. No. 64 Siler, 3,614-38 feet, 32 bbls. per hour; No. 70 Siler, 3,574-3,620 feet, 45 bbls. per hour.

Smith County

Sinclair Prairie Oil Co. No. 13-B Jarvis, 3,688-93 feet, 60 bbls. per hour; No. 10 Patterson, 3,678-80 feet, 17 bbls. in 30 minutes. Sun Oil Co. No. 4 Seale, 3,697-98 feet, 20 bbls. per hour.

Upshur County

Barnett Petroleum Corp. No. 3-B Cannon, 3,696-3,700 feet, 30 bbls. per hour. P. H. Pewitt No. 17 Williford, 3,685-86 feet, 20 bbls. per hour. Rutledge and Boller No. 1 Todd, 3,751-52 feet, 20 bbls. per hour through one-half inch choke. Southland United East & West Oil Co. No. 29 O'Byrne, 3,735-50 feet, 40 bbls. per hour; No. 43 O'Byrne, 3,712-15 feet, 55 bbls. per hour. Vera Oil Co. No. 7 Owens, 3,800-01 feet, 30 bbls. per hour.

COMPLETIONS IN EAST CENTRAL TEXAS

Franklin County

Humble Oil & Refining Co. No. 1 C. P. Stewart, 4,321 feet, 187 bbls. per day through one-quarter inch choke.

Hopkins County

Hager and others No. 5 Worsham, 4,521 feet, 1,144 bbls. in 24 hours through 2½-inch tubing.

Navarro County

Gerard Oil Corp. No. 36 Humphreys, 1,227 feet, 5 bbls. per day in pump.

Titus County

Humble Oil & Refining Co. No. 1 Fry, 4,341 feet, 286 bbls. in 24 hours through one-quarter inch choke; No. 1 Milligan, 4,321 feet, 85 bbls. in eight hours swabbing. Magnolia Petroleum Co. No. 3 Belcher, 4,318 feet, 35 bbls. per hour.

Eastern Fields

(Continued from Page 62)

Cornelia Storrs farm, in the Injun sand at 1,949 feet. It is a 2-bbl. pumper.

Gas Wells

In Boone County, the United Fuel Gas Co. completed No. 4,680 on the Horse Creek Coal Land Co. in Scott district in the Berea sand gauging 315,000 feet of gas a day. The Berea was at 2,359-81 feet with the gas at 2,364-72 feet.

In Cabell County, R. H. Adkins and others completed a test on the C. W. Bledsoe farm in McComas district at a depth of 3,488 feet. It gauged 334,800 feet a day from the Brown shale which was placed at 2,685-3,470 feet with the gas at 3,060 feet. In Grant district, the Thermal Gas Co. test on the C. E. Perry farm was completed at 2,074 feet as a Berea sand gas well. It gauges 142,000 feet a day.

In Gilmer County, there were three gas wells and a dry hole. In Center district, the Carnegie Natural Gas Co. completed a test on the Duncan Despard farm at a depth of 2,150 feet as a gas well. In Troy district, Massey and Jarvis completed No. 3 Vestie Ward at 1,725 feet as a small gas well. In DeKalb district, Park Bowser completed No. 5 on the O. C. and T. C. McQuain farm in the Salt sand at a depth of 1,804 feet. It gauges 600,000 feet a day. In this district, Godfrey L. Cabot, Inc., drilled a test on the Okey Stalnaker farm through the Berea sand and it was dry.

In Lincoln County, Pridemore and others completed deepening No. 1 Martha A. Godby in Laurel Hill district in Brown shale, total depth 3,022 feet. It is good for 200,000 feet a day. In Sheridan district, the United Fuel Gas Co. completed deepening No. 5 on the Rochester Coal Co. lease at a depth of 3,394 feet. It gauges 190,000 feet a day from the Berea and Brown shale. Same operators completed No. 4,686 on the Walter Linville and others lease at 3,672 feet. It is good for 308,000 feet a day from the Brown shale at 2,946-3,610 feet and the Berea at 2,221-25 feet.

In Ritchie County, McBurney and others test on the Guy Flanagan farm in Clay district, was completed in the Injun sand at 1,777 feet, gauging 125,760 feet a day. The test of J. C. Smith and others on the Aubrey Collins farm was dry in the Injun sand at a depth of 1,825 feet. In Murphy district, W. H. Bickel completed a gas well on the John H. Lyman farm in the Injun sand at a depth of 2,201 feet, gauging 960,000 feet a day. In Grant district, Wilber Lamp and others have a dry hole on the C. B. Rawson farm in the Berea sand.

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West and North Texas

By
L. E. BREDBERG

GOLDSMITH, ECTOR COUNTY, MAY BECOME A MAJOR FIELD

FORT WORTH, Tex., Dec. 14.—Whether or not the Dunning-Cummins area, in section 33, Block 45, Township 1n, T.&P. Survey, Ector County, is to be connected with the Goldsmith field 4 miles south, making one continuous field 8 miles in length from northwest to southeast, depends upon Texas Pacific Coal and Oil Co.'s test on the Scharbauer lands, in section 31, Block 44, Township 1n, logging a commercial producing lime horizon. At present Humble Oil & Refining Co. No. 1 Scharbauer, in section 30, Block 44, Township 1n, nearly 1 mile to the northwest of the Texas and Pacific test, is proving a producer after shooting with 300 quarts of nitroglycerin from 4,185 to the total depth 4,275 feet, starting a flow of 6 bbls. of oil per hour. This well is nearly 2 miles southeast of the Dunning-Cummins area and about the same distance northwest of the Goldsmith area.

Another well which will help to prove a connecting link between the two pools is that of the Shasta Oil Co. on the Scharbauer ranch, in section 29, about 1 mile northeast of the Humble well and the same distance north of the Texas and Pacific test, and also 1 mile southwest of the Landreth-Cowden producer in section 20, Block 44, helping to tie this area into the Goldsmith and Cummins area, thereby widening it. The Shasta well topped the pay at 4,132-37 feet and filled 700 feet with oil on a 30-minute drill-stem test, making 120,000 feet of gas. If the Texas and Pacific test proves a failure, which is unlikely, the pools' link may be swung to the east by the Shasta well. These are important tests in view of the fact that they will prove or disprove the making of another large major field for the district, although the Goldsmith field is potentially important without the addition of the Scharbauer and Cummins area.

Another Possible Link

The American Maracaibo Oil Co.'s No. 1 Scharbauer, located in the southwest corner of section 19, Block 44, Township 1n, T.&P. Survey, is far from the saturated lime pay horizon found in the Cummins and Goldsmith pools, but it is an extremely important test on intervening acreage between the two pools. It is located about 1 mile due north of the above mentioned Humble producer and slightly over a mile southeast of the Dunning-Cummins area. It is drilling below 3,625 feet and will be closely watched when it near the expected pay zone.

When and if these areas are linked by production the interest will be turned farther north to where the Empire Gas and Fuel Co. has a wildcat producer in section 22, Block 45, Township 1n, T.&P. Survey, same county, about 3 miles north of the Dunning-Cummins area. With this area linked to the Dunning-Cummins area and that one in turn linked with the Goldsmith area, then Ector County would have a pool at least 10 miles long, proven, with the possibility that it will be extended at least 1 mile farther north and no telling how much farther south as there has been no southern defining test drilled to the Goldsmith field. And the field will cover an area at least 2 miles in width, as such has already been proven.

Another Sale

The Wahlenmaier Petroleum Corp. of San Angelo assigned a half interest in four leases aggregating 327 acres in the Keyes pool near Kermit, in Winkler County, to the Texas Pacific Coal and Oil Co. The leases are in section 35, Block 26, P.S.L. Survey, offsetting producing leases held by other companies. Consideration is to be the development of the properties by the Texas Pacific company, drilling to be started within 30 days after approval of titles.

The Keyes pool, in which the above trade was made, is southeast and part of the Sayre-Howe area opened in 1934. Production comes from a sandy lime which is producing from the Halley area on the south, up through Kermit and the Keyes pool through the Sayre-Howe area and being extended nearly every week, this trend paralleling the old Hendrick field in which production is found in a different pay formation.

Ward Wildcat Watched

The northern Ward County wildcat of Finley, Cherry and others on the Sealy ranch, in the northeast corner of section 54, Block F, G.M.M.B. &A. Survey, about 4 miles west of the prolific O'Brien field, will be closely watched this week when plugs are drilled from casing and test made of the 14 inches of saturated lime found in the bottom of the core taken at 3,120-3,200 feet. Seven-inch casing was cemented at 2,886 feet. If it proves a producer it will open another pool for that part of the county.

The small producing Monroe area on the extreme west side of Ward County, saw the abandonment of another test for production by the Prince Brothers Drilling Co. in section 25, Block 34, H.& T.C. Survey, south of the discovery well. It was given up at a total depth of 2,856 feet, having an elevation of 2,612 feet. The Monroe discovery is producing from a formation similar to that from which production is obtained in the Wheat field in Loving County, about 13 miles to the north. The Monroe field was discovered about 4 years ago, but has not proved of much importance so far. Several dry holes have been drilled in the area in an effort to extend the producing area.

Dry Tests in Fisher County

Two wildcats in Fisher County, one considered a deep test, were ordered abandoned this week. The Forrest Development Co. of Pittsburgh, Pa., is plugging its No. 1 A. M. Dry, located in section 108, Block 2, H.&T.C. Survey, at a total depth of 4,539 feet. Elevation is 2,087 feet. This test logged a showing of saturated lime considered worth acidizing by the company, but which failed to produce. The other abandonment is to be made by the Southern Oil Corp. of Dallas in its No. 1 J. S. Edwards, in the eastern part of the county, which has been shut down since the middle of September at a total depth of 3,362 feet. It has a slight oil showing at 3,336-37 feet, which was not considered worthy of testing with acid. Location is in section 73, Block 1, H.T.C. Survey.

Mack Hayes, independent producer and ex-mayor of Albany, Tex., who has been operating and wildcatting in North Central Texas for the last 10 years

Another Sale in District

Floyd C. Dodson, consulting geologist and independent operator of San Antonio, has sold the Signal Oil & Gas Co. of California a spread of 1,920 acres around his Brewster County wildcat. This test is located on lands of the Texas American Syndicate, in section 66, Block 10, G.H.&S.A. Survey, in the northeastern part of the county, and is being cleaned out at a total depth of 3,690 feet at this writing. It is seeking Ordovician production. This is the first purchase of consequence made by the Signal company in Texas, the company jointly operating a casinghead plant in the Big Lake field, Reagan County, with the Texon Oil & Land Co.

Western Wildcats

The Lee Petroleum Corp. and others are rigging up on location in section 1, W. D. Henley Survey, about 22 miles east by south of Fort Stockton in Pecos County, for a wildcat test. L. C. Brite has made location for another wildcat test on fee lands in Presidio County in section 113, Block 12, G.H.&S.A. Survey.

WEST CENTRAL AND NORTH CENTRAL TEXAS

There were locations staked for four wildcats in the West Central Texas district this week, two of them in Shackelford County, the busiest county in the district; one in Callahan County and one in Eastland County. The Eastland test is to be drilled by Ray Hoff on the Brashears lands, 5½ miles southeast of Eastland, and about 2 miles southeast of the Chastain-Brashears discovery made early this year.

The Humble Oil & Refining Co. has staked location for a test approximately 1 mile west of the recently discovered gas well on the Newell ranch in western Shackelford County. Same is in section 2, G.H.&S.A. Survey, 12 miles west of Albany. It will be drilled to 1,800 feet.

Hal Hughes of Abilene is to spud this week on his No. 1 R. D. Williams, a 2,150-foot semi-wildcat test in section 61, B.O.A. Lands Survey, 16 miles northeast of Baird in Callahan County. It is near an old test which struck a flow of gas which ignited and burned the rig.

Cooke County Failures

There were three failures announced for the area south and southeast of Gainesville in Cooke County this week; the Woodbine Oil Corp. No. 2 Potter was given up as a failure at a total depth of 2,340 feet. It is located in the Gorham Survey about 10 miles southeast of the city. About 2 miles southeast of Woodbine Merric, Inc. and Burk Royalty Co. No. 1 Josephine Jones, located in the J. Lawson Survey, is to be abandoned around 3,100 feet. About 2½ miles southeast of Valley Vie, W. G. Mapes is to abandon his No. 1 W. E. Harper in the Walker Petit Survey.

Deep Test

C. Lupton and others of Fort Worth are pre-

paring to deepen an old test, previously abandoned at 3,500 feet, to 6,000 feet after taking over a large block of acreage on the W. T. Ball ranch in Montague County. Location of this new activity is in Block 2,882, T.E.&L. Survey, about 4 miles west and 2 miles south of Bowie. The old hole will be cleaned out and carried on down to new contract depth.

CENTRAL TEXAS COMPLETIONS

Brown County

Brown & Gardner No. 1 Triplett, 1 mile southwest of Cross Cut, sand 1,349-81 feet, total depth 1,381 feet, abandoned.

Callahan County

Smith & Gray No. 1 Morgan, 3 miles south of Putnam, total depth 500 feet, abandoned.

Palo Pinto County

Palo Pinto Oil & Gas Co. No. 17 Strawn Coal Co., 2 miles northeast of Strawn, sand 3,216-25 feet, estimated 250,000 feet gas, lost tools and junked, total depth 3,240 feet. Texas Pacific Coal & Oil Co. No. 5 fee (H. Bird Survey), northwest edge of Strawn, sand 3,992-35 feet, total depth 3,260 feet, shot with 50 quarts, 7,840,000 feet gas.

Shackelford County

Andrew Howsley No. 5 Reynolds Cattle Co., 1 mile northeast of Cook pool, sand 917-22 feet, 5 bbls. Charter Oil Co. No. 1 W. D. Baker, center west line of county, total depth 1,636 feet, abandoned. R. F. Gilman No. 3 Jeter "B," 2 miles west of Albany, sand 902-21 feet, 5 bbls. Harris & Little No. 1 Isenhower, 9 miles west of Moran, total depth 1,012 feet, abandoned. C. Morton and H. King No. 1 Davis, southwest corner county, total depth 1,932 feet, abandoned. Tannehill, Kiser & Fleming No. 32 Mathews, 2 miles east of Cook pool, total depth 885 feet, abandoned.

WEST TEXAS COMPLETIONS

Andrews County

Sun Oil Co. No. 1-B Means, 4,502-36 feet, shot, 728 bbls. Humble Oil & Refining Co. No. 9 Means, 4,528-65 feet, acidized, 325 bbls.

Crane County

Texas Consolidated Oil Co. No. 2 Hughes, 1,992-2,068 feet, acidized, 818 bbls. E. N. Thomasson Producing No. 1 Durham, dry and abandoned, 2,605 feet, elevation 2,534 feet.

Ector County

Phillips and Pure Oil Co. No. 7 Cowden, 4,072-4,106 feet, 1,106 bbls. Weekly Oil Co. No. 1 Foster, 4,040-4,231 feet, shot, 673 bbls.

Fisher County

Forrest Development Co. No. 1 A. M. Dry, dry and abandoned, 4,539 feet, elevation 2,087 feet.

Glasscock County

Continental Oil Co. No. 19-S Settles, 1,203-40 feet, 313 bbls.

Howard County

Shasta Oil Co. No. 9 Dodge, 2,455-2,739 feet, shot, 853 bbls. Iron Mountain Oil Co. No. 12 Read, dry and abandoned, 2,790 feet, elevation 2,296 feet. Chester Oil Co. No. 3 Jones, 2,600-2,923 feet, shot, 461 bbls. G. H. Johnson No. 1 C. Hyman, 1,180-1,328 feet, shot, 25 bbls.

Jones County

Empire Oil & Refining Co. No. 1 Winkles, dry and abandoned, 2,015 feet.

Pecos County

A.B.C. Oil Co. No. 3 Masterson, 1,462-87 feet, shot, 495 bbls. Union Oil & Mining Co. No. 3 Jones, 1,664-1,785 feet, plugged back to 1,763 feet, 5 bbls. Mid-Continent Petroleum Corp. No. 1 Jasper County Realty Co., 1,524-1,630 feet, shot, 45 bbls. Broun No. 16 Tippett, 495-575 feet, 193 bbls. oil and 5 bbls. water.

Ward County

G. Bentley No. 1 Elliott, 2,620 feet, plugged back to 2,425 feet, shot, 3,000,000 feet of gas. Liedecker and others No. 1 Wriston, dry and abandoned, 3,111 feet. Sinclair Prairie Oil Co. No. 5 Hill, 2,243-2,490 feet, shot, 381 bbls. G. T. Hall

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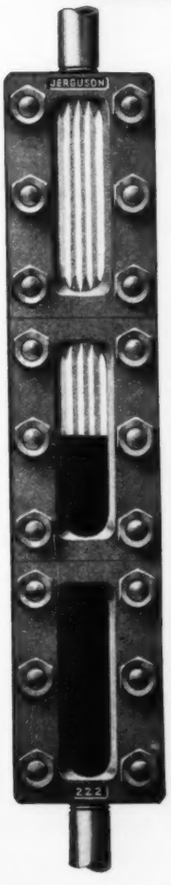

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and others No. 1 Shell-Patton, 2,190-2,355 feet, shot, 450 bbls. Republic Production Co. No. 4 Fox, 2,227-75 feet, 314 bbls. Humble Oil & Refining Co. No. 10 Richter, 2,924-33 feet, shot, 761 bbls. Empire Oil & Refining Co. No. 15 McDonald, 2,300-2,462 feet, shot, 572 bbls. Bond and others No. 1 Dorr, 2,218-2,450 feet, shot, 400 bbls. Prince Brothers Drilling Co. No. 1 Monroe, abandoned, 2,856 feet, elevation 2,612 feet.

Upton County

Gulf Oil Corp. No. 2-B Sherk, 2,510-2,658 feet, acidized and shot, 210 bbls.; No. 6 Sherk, 2,235 feet, acidized, 995 bbls. Brewer & Smith No. 1 Cordova Union, 2,000-63 feet, 126 bbls.

Winkler County

Gulf Oil Corp. No. 5 Clapp, 2,731-3,123 feet, shot, 287 bbls.; No. 12 Daugherty, 2,846-3,000 feet, shot, 469 bbls. Eastland Oil Co. No. 1-B Halley, 2,735-2,866 feet, shot, 410 bbls. Empire Gas & Fuel Co. No. 6-D Daugherty, 2,800-3,028 feet, shot, 688 bbls. Illinois Oil Co. No. 5-B Central State Bank of Abilene, 2,840-3,140 feet, shot, 1,058 bbls.; No. 4-A McCutcheon 2,800-2,980 feet, shot, 405 bbls.; No. 1-C Scarborough, abandoned, 3,185 feet. Humble Oil & Refining Co. No. 4-C Colby, 2,773-3,050 feet, shot, 1,045 bbls.; No. 4 McCutcheon, 2,604-2,802 feet, shot, 15,750,000 feet gas. Monday Oil Co. No. 7 Central State Bank of Abilene, 2,800-2,979 feet, shot, 1,313 bbls. Sinclair Prairie Oil Co. No. 5-A Leck, 3,080-3,100 feet, 897 bbls. Siosi Oil Co. No. 4 Lovett, 2,798-3,137 feet, shot, 550 bbls.

NORTH TEXAS COMPLETIONS

Clay County

A. Goldsmith No. 1 Byers Brothers, 1,818 feet, dry. Metzner & Burns No. 14 Thornberry, 318-32 feet, 10 bbls.

Cooke County

Anderson & Kerr No. 6 Wilson, 2,090 feet, dry. Dove Oil Co. No. 4 Carr, 1,872-1,962 feet, 225 bbls. Harrison & Dillard No. 10 R. W. Trew, 1,184-1,205 feet, 130 bbls. Mudge Oil Co. No. 4 Meador, 1,497-1,556 feet, 25 bbls. B. F. Thompson No. 1 F. Trubenbach, 1,446-52 feet, 10 bbls. Woodbine Oil Co. No. 2 C. C. Potter, 2,340 feet, dry.

Jack County

Gillispie Brothers No. 2 Helvey, 2,969-3,014 feet, 125 bbls. Gwynn & Overby No. 3 Lowe, 2,661-2,995 feet, 1,100 bbls.; No. 5 Rankin, abandoned location. T. D. Humphrey No. 1 Birdwell, 3,006-38 feet, 250 bbls.; No. 6 Birdwell, 3,971-35 feet, 440 bbls. Josaline Oil & Gas No. 2 Eatherley, 2,951-3,003 feet, 500 bbls. Ponder and others No. 1 Bloodworth, 324 feet, dry.

Montague County

Texas Co. No. 6 Mrs. A. B. Hinton, 758-80 feet, 55 bbls.

Wichita County

King Oil Co. No. 1 Stone, 1,618-26 feet, 155 bbls.; No. 10 Waggoner J, 1,454-64 feet, 50 bbls. Pois & Schultz No. 3 Foster A, 1,273-80 feet, 100 bbls. George Proctor No. 1 Burnett and others, 822 feet, dry. Sussex Oil Corp. No. 3 Potter, 1,863-80 feet, 25 bbls. S. H. Walton No. 4 S. Wiseman, 825-35 feet, 10 bbls.

Wilbarger County

King Oil Co. No. 2 Waggoner P, 2,129-57 feet, 22 bbls. Lido Oil Co. No. 16 Waggoner C, 2,727-32 feet, 200 bbls.

Young County

C. E. Beavers and others No. 1 Gathright, 878 feet, dry. Joe E. Butler and others No. 1 Benson, 1,002 feet, dry. Cable Oil Co. and others No. 3 Prideaux, 645 feet, dry. B. C. Gilmore No. 1 S.

(Continued on Page 79)

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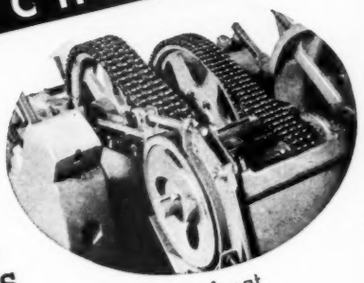

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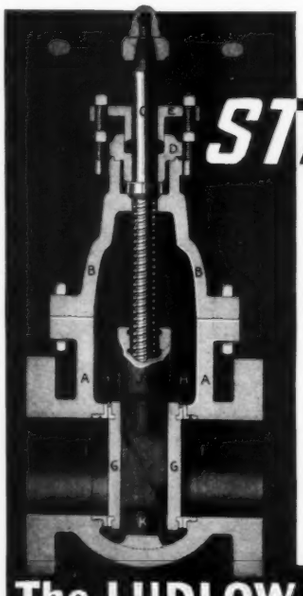

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Kansas Developments

By
DAL DALRYMPLE

NEW WELL MAY UNITE TWO SOUTH RICE COUNTY FIELDS

Several big oil wells were completed in Kansas fields the past week, one wildcat apparently proved a connecting link between the Hauschild and Saxman pools of southern Rice County, and other wildcats were showing as probable pool openers.

Aylward Production Co. and others No. 1 M. A. Johnson, NW NW NE section 17-21-7w, wildcat, 1½ miles west of the Hauschild pool and about 1 mile southeast of the Saxman pool, had not been tested but was estimated good for from 2,000 to 5,000 bbls. of oil daily. It was shut in for tankage and connections. Conglomerate was topped at 3,358 feet; total depth, 3,390 feet. Completion of this well opens up a large area between the two prolific pools to development.

Rose Spring Drilling Co. and others No. 1-A Rutter, C NW NW section 21-33-2e, south of the Oxford area in Sumner County, topped Chat at 3,225 feet, drilled 2 feet in and the hole filled with oil. It was deepened to 3,229 feet, total depth, and when oil flowed over the top of the derrick it caught fire and caused considerable damage. It was shut in for repairs.

Vernon Oil & Gas Co. and M. B. Armer No. 1 Ainsworth, NE NE SE section 33-16-13w, wildcat near Susank in Barton County, had a hole full of oil in Siliceous lime at 3,395 feet, and was scheduled for a test this week. It is south of C. L. Price and others No. 1 Deutsch, NW NW NE section 16-16-13w, wildcat, which also was showing as a pool opener in Siliceous lime at 3,389 feet. Oil rose 2,850 feet in the hole in nine hours and it was due to be tested. Both wildcats apparently are on the same trend as the prolific Trapp area of southern Russell County. The No. 1 Ainsworth is 6 miles south of the Sellens and Trapp district, and is about 3½ miles south of No. 1 Deutsch.

The Warkentine pool of Harvey County, looking more and more like a major Kansas field, provided one of the big wells of the week at Empire Oil & Refining Co. No. 1 Talbott, SW NW section 1-23-2w. It flowed 1,010 bbls. of oil in 2 hours and 15 minutes and made potential of 10,771 bbls., from Chat at 2,993 feet. It is the most northeasterly producer in the field, and is an east offset to a 2,615-bbl. well. A well drilled by Western Kansas Oil & Refining Co. and others at the south end of the field is believed to be good for 5,000 bbls. from Chat, but testing was delayed because of inadequate pipe line facilities.

Ohio Oil Co. completed No. 1 Lawson, section 15-26-9w, in the Lerado field, Reno County, for a potential of 6,409 bbls. of oil after acidizing Viola lime.

Aylward and Morgan & Flynnn have another big combination oil and gas well at No. 1 Schroeder, SW NW SE section 23-18-16w, in the Otis area, Rush County. Production was estimated at 1,000 to 3,000 bbls. of oil, with 40,000,000 feet of gas from Reagan sand at 3,538 feet, total depth. Tankage was being erected, preparatory to testing.

Rice County

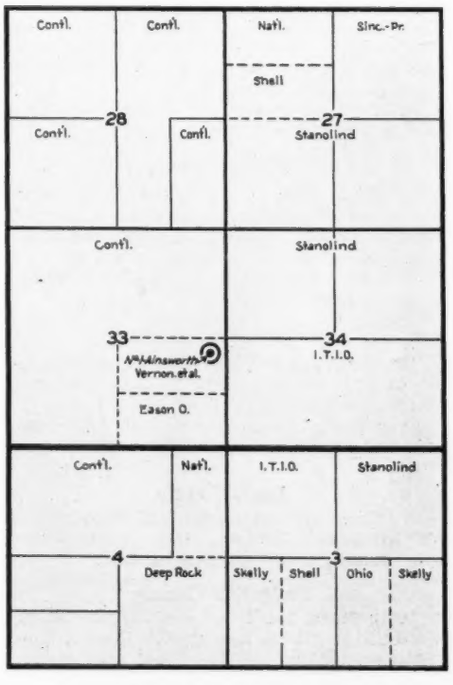
The largest well completed in Rice County was Stanolind Oil & Gas Co. No. 8 Specht, NE NW SE section 6-20-10w, Silica district. It topped Siliceous lime at 3,300 feet; total depth, 3,313 feet. It made potential of 2,644 bbls. of oil.

Other Rice County completions were as follows: J. H. Tatlock No. 14 Berscheit, SW SW NW section 6-20-10w; Siliceous, 3,264 feet; total depth, 3,272 feet; potential, 953 bbls. of oil, with 3 per cent water. Same operator's No. 15 Berscheit, SW SE NW section 6-20-10w; Siliceous, 3,266 feet; total depth, 3,275 feet; potential, 1,188 bbls. of oil. Same operator's No. 2 Draw, NE NW SW section 5-20-10w; Siliceous, 3,300 feet; total depth, 3,316 feet; potential, 1,458 bbls. of oil. Deal Oil & Gas Co. No. 1 McConnell, NW NW NE section 14-21-7w; Kansas City, 2,872 feet; Conglomerate, 3,362 feet; total depth, 3,384 feet; potential, 390 bbls. of oil. Continental Oil Co. and others No. 2 Ainsworth, NW SW SE section 24-18-8w; Siliceous, 3,201 feet; pay, 3,220-22 feet; total depth, 3,222 feet; acidized with 4,000 gallons; potential, 1,330 bbls. of oil. Same operators' No. 1 Michaels, NE NE SW section 12-18-8w, abandoned location.

Empire Oil & Refining Co. No. 1 Janzen, NE cor. section 17-18-9w; Siliceous, 3,263 feet; total depth, 3,873 feet; took 210 bbls. of water and completed as water disposal well. Atlantic Refining Co. No. 1 Wilcox, SE SE NE section 13-19-10w; Kansas City, 2,925 feet; Conglomerate, 3,281 feet; Siliceous, 3,298 feet; total depth, 3,324 feet; dry and abandoned. W. E. Witt and others No. 1 Wright, NW NW SE section 26-19-9w, wildcat; Kansas City, 2,894 feet; Siliceous, 3,372-75 feet, with a hole full of water; total depth, 3,377 feet; dry and abandoned.

New work in Rice County was as follows: Empire Oil & Refining Co. No. 8 Janssen "A," NW cor. section 3-18-8w, building rotary rig; Gulf Oil Corp. No. 6 Malone, SE NE NW section 18-20-9w, rigging up rotary; M. B. Armer and others No. 1 McFarland, NE NW NW section 7-20-9w, cellar; J. H. Tatlock No. 6 J. Berscheit, NW NE SW section 6-20-10w, cellar; same operator's No. 6 J. Berscheit, NE NE SW section 6-20-10w, cellar; Stanolind Oil & Gas Co. No. 10 Specht, SE NE SE section 6-20-10w, building rotary rig.

Torrey & Feaster and others No. 1 Wallace, SW SW NE section 32-19-9w, pumped 400 bbls. of oil in 16 hours after acidizing and cleaning out. It had pay at 3,224-32 feet, total depth. The Texas Co. No. 4 Kleile, SW cor. section 34-19-10w, was bottomed at 3,313 feet and pumped 157 bbls. of oil in two hours. Empire Oil & Refining Co. No. 1 Weiland, NW NW NE section 5-20-9w, total depth 3,237 feet, was acidized and pumped 256 bbls. of oil in 24 hours; then was reacidized and was waiting. Sinclair Prairie Oil Co. No. 2 Proffitt, SW NW NW section 3-20-10w, was bottomed at 3,343 feet and swabbing at the rate of 10 bbls. of oil per hour. Gulf Oil Corp. No. 1 Schmidt, NE SE SE section 6-20-10w, made potential of 557 bbls. of oil at 3,342 feet, total depth, and was waiting after acidizing. Skelly Oil Co. No. 1 Thompson, NW cor. section 28-20-10w, pumped 615 bbls. of oil and 25 bbls. of water after acidizing; total depth was 3,288 feet.



Vernon & Armer No. 1 Ainsworth, section 33-16-13w, Barton County, Kans., was showing as a new pool opener on the trend south from the Trapp field.—(Mid-Continent Map Co., Wichita)

Estimated Daily Production

Estimated daily average production of Kansas for the week ending December 12, and for the preceding week, was as follows:

	Barrels	
	Dec. 12	Dec. 5
Oxford City	3,150	2,975
Burrton	14,275	13,200
Ritz-Canton	6,325	5,875
Hollow-Nikkel	3,600	3,700
Voshell	2,775	2,800
Ellsworth:		
Lorraine-South Lorraine	5,710	5,580
Other pools	1,457	1,423
Rice-Barton counties:		
Bloomer	2,028	935
Chase	9,155	8,700
Geneseo	2,015	1,170
Raymond	3,160	2,475
Silica	14,180	9,340
Keesling	2,495	1,350
Hauschild	2,110	1,850
Miscellaneous Rice	5,447	4,993
Miscellaneous Barton	3,095	2,505
Russell County:		
Fairport	2,400	3,235
Gorham-East Gorham	8,925	8,230
Russell	2,495	4,250
Sullivan	2,915	2,730
Trapp	3,355	3,110
Other pools	6,216	5,298
Sedgwick County:		
Valley Center	1,315	1,300
Greenwich	1,240	1,140
Robbins	1,200	1,135
Eastborough	755	715
Other pools	440	324
Ellis County	3,295	3,755
Kingman County	635	560
Stafford County	2,200	1,690
Greenwood County	10,000	10,000
Butler County	17,100	17,000
Other fields	27,037	26,857
Total Kansas	172,500	160,200

Russell County

Four oil wells were completed in the Trapp area, Russell County, by W. I. Southern, Inc. The largest was No. 2 Sellens heirs "A," NE SE SW section 30-15-13w. After acidizing with 4,000 gallons, it made potential of 2,629 bbls. of oil from Siliceous lime topped at 3,264 feet; total depth, 3,268 feet. The No. 1 Boomhower "A," SE SE NE section 30-15-13w, topped Siliceous lime at 3,243 feet, was bottomed at 3,247 feet, and after acidizing with 4,000 gallons, made potential of 2,125 bbls. of oil. The No. 2 Michaelis, SE NE NW section 31-15-13w, made potential of 744 bbls. after acidizing with 4,000 gallons. It had Topeka lime at 2,904-09 feet, total depth. The No. 1 George Sellens, SE SW SW section 20-15-13w, topped Kansas City lime at 2,988 feet; total depth, 3,004 feet. It was acidized with 4,000 gallons and made potential of 1,063 bbls. of oil with 5 per cent water.

Other Russell County completions: Smoky Hill Oil Corp. No. 7 Miller, SE SW SW section 30-14-13w; Kansas City lime, 2,830 feet; total depth, 2,903 feet; acidized with 8,000 gallons; pumped

and flowed 1,744 bbls. of oil on potential test. Bridgeport Machine Co. No. 2 Mills, NW SE SE section 33-13-15w; Gorham sand, 3,313 feet; total depth, 3,315 feet; potential, 440 bbls. of oil. Central Petroleum Co. No. 2 Foster "B," SE SE NE section 3-14-15w; anhydrite, 908 feet; Siliceous lime, 3,295 feet; pay, 3,301-05 feet, total depth; potential, 1,532 bbls. of oil. Darby Petroleum Corp. No. 1 Dumler "C," NE cor. section 11-14-15w; Siliceous, 3,302 feet; total depth, 3,329 feet; plugged back to 3,311 feet; shot and acidized without success; dry and abandoned.

The following new work was reported in Russell County: W. I. Southern, Inc. No. 1 Neidens, SW NW NE section 32-15-13w, rotary rig; same operator's No. 2 Boomhower, NE SE NW section 32-15-13w, rotary rig; same operator's No. 1 Meharg, NE cor. section 18-15-13w, location; Coralena Oil Co. No. 5 Boomhower, SE NE NW section 32-15-13w, location; same operator's No. 16 Trapp, SE NW SE section 30-15-13w, rotary rig; National Refining Co. No. 1 West Reinhardt "A," NE NE NW section 36-14-15w, cellar; Saco Oil Co. No. 2 Mills, NE NE NW section 10-14-15w, moving in material.

Shields and others No. 1-A Miller "C," SW SE SE section 31-14-13w, had pay at 2,902-24 feet, total depth; oil rose 800 feet in the hole in eight hours; it was acidized with 8,000 gallons and was waiting. Saco Oil Co. No. 1 Gurney, SE SW SW section 23-14-14w, pumped 700 bbls. of oil in 15 hours after acid treatment; total depth, 2,800 feet.

Reno County

H. F. Wilcox Oil & Gas Co. No. 3 Neufeldt, NE SW NW section 12-23-4w, Burrton field, Reno County, made potential of 974 bbls. of oil after 80 shots in pay at 3,354-61 feet. Chat was topped at 3,280 feet.

The only other Reno County completion was Olson Oil Co. and Shell Petroleum Corp. No. 7 Roberts, C E half W half section 25-23-4w, Burrton area. It topped Chat at 3,257 feet; total depth, 3,374 feet; acidized with 1,000 gallons and made potential of 264 bbls. of oil.

One wildcat was included among the new operations starting in Reno County. It was W. E. Witt and others No. 1 Wright, SE NE NE section 9-23-8w, a cellar. Olson Oil Co. and others No. 4 Fast, C W half E half section 25-23-4w, was a location; Sinclair Prairie Oil Co. No. 6 Seedle, C S half S half NE section 17-24-4w, rigging up rotary; Yingling and others No. 1 River Bed, SE SW NW section 20-24-4w, cellar; Shell Petroleum Corp. No. 1 M. F. Reese, C W half W half SE section 11-26-9w, rotary rig.

Harvey County

Two large wells were completed in the Warkentine pool, Harvey County. Western Kansas Oil & Refining Co. No. 1 Dreese, C E half NE NE section 2-23-2w, topped Chat at 2,959 feet, and had pay at 2,991-93 feet, total depth. It flowed 769 bbls. of oil in three and one-half hours and made potential of 4,752 bbls.

Tom Palmer and others No. 1 McBurney "B," C E half NE SE section 2-23-2w, flowed 816 bbls. in six hours and made potential of 3,903 bbls. of oil. Top of Chat was 2,965 feet; pay, 2,995-98 feet, total depth.

Imo Oil & Gas Co. and others No. 1 Sperling, SE NE NE section 23-22-2w, an old well, was plugged back from 3,345 feet to 3,020 feet; perforated casing, produced 7,700,000 feet of gas and was recompleted.

New work in Harvey County: Western Kansas Oil & Refining Co. and others No. 1 Denno, C NW SW section 12-23-2w, moving in material; Empire Oil & Refining Co. No. 2 Talbott, CWL NW NW section 1-23-2w, location; Shell Petroleum Corp. No. 4 Neufeldt, SE SE NW section 8-22-3w, rigging up rotary.

Barton County

Sinclair Prairie Oil Co. No. 5 Isern, NE SW SW section 25-19-11w, the only completion in Barton County, was dry and abandoned at 3,366 feet, total depth. It topped Conglomerate at 3,279 feet; Siliceous lime, 3,359 feet.

New work in Barton County was as follows: Helmerich & Payne No. 1 Krause, C SE section 18-18-15w, rotary rig; Magnolia Petroleum Co. No. 1 Mueller, NW NW NE section 1-18-11w, building rotary rig; Gulf Oil Corp. No. 8 F. Steckel, SE SE NE section 1-20-11w, cellar; Hilligoss and others No. 8 Isern, NE SE NE section 12-20-11w, location; Magnolia Petroleum Co. No. 2 Roetzel, SW NW NE section 24-20-11w, cellar; Lario Oil & Gas Co. and Atlantic Refining Co. No. 3 Peter, NE NE NW section 24-20-11w, rotary rig.

McPherson County

Largest producer completed in McPherson County was Derby Oil Co. No. 3 Arnold, SW NW SW section 16-21-1w, Graber area. It topped Chat at 2,910 feet; Hunton lime, the producing formation, at 3,304 feet, and was bottomed at 3,341 feet. After acidizing with 2,000 gallons, it made potential of 1,316 bbls. of oil. Continental Oil Co. and others No. 4 Goering, SE SW SW section 29-21-1w, made potential of 948 bbls. of oil after acidizing with 4,000 gallons. Top of Hunton lime was 3,250 feet; pay, 3,252-73 feet, total depth.

Tom C. Johnson completed No. 1 Lively, NE NW NE section 20-19-1w, at 2,996 feet, total depth. It produced 5,500,000 feet of gas daily.

Sinclair Prairie Oil Co. No. 3 Krehbiel, NE NE SE section 4-21-3w, an old well, was deepened to 3,493 feet, plugged back to 3,486 feet, made potential of 60 bbls. of oil, with 125 bbls. of water, and was recompleted. Top of Siliceous lime was 3,480 feet.

Dickey Oil & Refining Co. and Gulf Oil Corp. No. 4 Goering, SE NE SE section 17-21-1w, had pay at 3,334-38 feet; total depth, 3,340 feet, and oil rose 3,000 feet in the hole. Continental Oil Co. No. 1 Chaves, NE NW NE section 20-21-1w, was waiting after acidizing with 6,000 gallons. It was bottomed at 3,359 feet and swabbed 27 bbls. of oil in eight hours after acidizing first time with 4,000 gallons.

Stafford County

Atlantic Refining Co. and others No. 1 Davis C-46, SE SE SW section 32-23-12w, wildcat in Stafford County, was dry and abandoned at 3,985 feet, total depth. Top of Kansas City lime was 3,475 feet; Viola, 3,790 feet; Simpson, 3,905 feet; Siliceous, 3,964 feet. Cores carried a sulfur odor. A Schlumberger test showed porosity at 3,974-85 feet.

One new operation in Stafford County was reported. It was Stanolind Oil & Gas Co. No. 1 J. C. Rosacker, SW SW NE section 5-25-11w, location for a wildcat.

Ellis County

The only completion in Ellis County was G. M. Piggott and others No. 1 Homburg, C NE section 33-11-20w, a wildcat. It topped anhydrite at 1,595 feet; Topeka, 3,300 feet; Kansas City, 3,555 feet; Conglomerate, 3,830 feet; Siliceous, 3,930 feet; and was dry and abandoned with no oil showing at 3,983 feet, total depth.

Gulf Oil Corp. No. 1 F. Walter, SW SW SE section 3-13-17w, was building rig.

Rooks County

Jarvis & Strickler No. 1 Hamel, SE SE SW section 7-8-20w, wildcat in Rooks County, encountered water and was dry and abandoned at 3,534 feet, total depth. Top of anhydrite was 1,503 feet; Topeka lime, 2,979 feet; Kansas City, 3,182 feet; Siliceous lime, 3,501 feet.

Ellsworth County

Bradley & Scanlon No. 1 Neinke, NE NW NW section 13-17-9w, an old well in Ellsworth County, was deepened from 2,206 feet to 3,051 feet in Kansas City lime. It was acidized with 4,000 gallons and made potential of 236 bbls. of oil, recompleted.

Rush County

W. E. Skeeles and others No. 1 Grumbein, SW SW NE section 7-16-20w, Rush County wildcat, was abandoned without making hole.

Sedgwick County

D. R. Lauck No. 1 McLean, SW SW SE section 1-27-1w, wildcat in Sedgwick County, topped LaMotte sand at 4,310 feet and was dry and abandoned at 4,700 feet, total depth.

Pawnee County

Kessler & Thier and others No. 1 Shea, NE cor. section 22-21-17w, wildcat in Pawnee County, was dry and abandoned at 4,152 feet, total depth. Top of Kansas City lime was 3,539 feet; Siliceous lime, 3,881 feet.

A new Pawnee County wildcat location was announced by Kessler & Thier and others at No. 1 Wallace, SE SE NW section 16-23-15w.

Marion County

A new oil well in Marion County was completed at National Refining Co. No. 17 Reamey, C N half N half NE section 20-21-4e. It topped Kansas City lime at 1,755 feet; had pay at 2,061-68 feet, total depth; was acidized with 1,000 gallons and pumped 337 bbls. in 48 hours.

National Refining Co. No. 18 Reamey, NE NW NE section 20-21-4e, was a location.

Butler County

The only well completed in Butler County was Cox & McGinnis No. 1-A Spinden, NE SE SE section 5-23-4e. It was bottomed at 2,461 feet, 1 foot in lime, and pumped 75 bbls. of oil, with 90 bbls. of water in the first 24 hours, and 42 bbls. of oil and 150 bbls. of water the second 24 hours.

One new Butler County operation was reported. Cox & McGinnis No. 1 Faulders, SW SW NE section 27-25-3e, was moving in material for a wildcat test.

Cowley County

Only one producing well was included among the four completions in Cowley County. It was Sinclair Prairie Oil Co. No. 22 Kukuk North, NE NW NE section 24-32-4e. It had pay at 2,339-66 feet, total depth, in sand topped at 2,331 feet. It was shot and pumped 55 bbls. of oil.

Wakefield and others No. 1 Beekman, NW NW SE section 26-32-3e, wildcat, topped Siliceous lime at 3,464 feet, had a hole full of water at 3,492-95 feet, total depth, and was dry and abandoned. It topped Mississippi lime at 3,170 feet, and had sand at 3,462-64 feet.

Roth & Faurot No. 2 Guthrie, NE cor. section 30-33-8, topped Mississippi lime at 2,754 feet, and was dry and abandoned at 2,805 feet, total depth. W. M. McKnabb No. 1 Hunt, C SW SE section 11-34-3e, topped Mississippi at 3,475 feet; had a hole full of water at 3,515-25 feet, total depth, and was dry and abandoned.

Earl Wakefield and H. E. Mead Oil Co. No. 1 Napp, SW SW NW section 2-34-5, was location for a new wildcat test in Cowley County.

Coffey County

The only new Coffey County oil well was Gillespie No. 1 Cochran, NE NE SE section 14-23-14. It topped lime at 1,606 feet; total depth, 1,620 feet; acidized with 3,000 gallons, and pumped 100 bbls. of oil in 24 hours, completed.

Harrigan Brothers No. 2 Wiley, SE NE NE section 14-23-14, was rigging up machine.

Max Reynolds No. 2 Demler, NE NW SE section 6-23-15, had Peru sand at 1,138-50 feet; topped Mississippi lime at 1,508 feet; set 5-inch casing at 1,514 feet and was cleaning out.

Sumner County

The Texas Co. No. 1 McKee, NE cor. section 5-32-1w, Wellington pool, Sumner County, was acidized with 1,000 gallons; made potential of 825 bbls. of oil and was completed at 3,670 feet, total depth. It flowed 158 bbls. in 11 hours before acidizing. Top of Chat was 3,623 feet. Donley and others No. 1-A Veail, NE NE SE section 22-32-2e, was an abandoned rig.

The Texas Co. was rigging up rotary at No. 2 McKee, NW NE NE section 5-32-1w.

Barber County

Barbara Oil Co. No. 1 B. E. Holmes, C E half SE section 15-33-13w, new Barber County test, was a cellar.

Woodson County

Two small oil wells were completed in Woodson County. Chris L. Sheedy and others No. 2 Lee, NW SW NE section 28-25-14, had sand at 1,426-45 feet, and was bottomed at 1,467 feet. It was shot with 250 quarts, and production was estimated at 50 bbls. of oil a day.

The only new work reported in Woodson County was at Reamer No. 1 Corn, NE cor. section 31-26-15, a wildcat. It topped Mississippi lime and set 6-inch casing at 1,448 feet and was cleaning out.

Nigh & Kilby No. 1 Hogueland, SW SE NE sec-

tion 3-24-15, Woodson County wildcat, was a new pool opener. It topped Chat at 1,477 feet; Mississippi lime, 1,487 feet; pay, 1,494-96 feet, total depth. It was acidized with 1,500 gallons and flowed 25 bbls. of oil in 24 hours.

Saline County

One new test was reported in Saline County. Ryan Consolidated Co. No. 1 Wuerth, SW SW NW section 28-14-2w, was location for a wildcat, southeast of Salina.

Greenwood County

R. G. Jennings No. 1 J. Greenwood, NW SE NW SE section 33-22-11, new operation in Greenwood County, set 12-inch casing at 263 feet and had a fishing job at 860 feet.

Chautauqua County

James O'Neil Bruen and others No. 1 Palmer, SE SE SW section 27-31-10, Chautauqua County, topped lime at 1,966 feet; had a showing of oil at 1,990-2,003 feet; acidized with 1,000 gallons and pumped 24 bbls. of oil and 120 bbls. of water, but was drilling ahead at 2,025 feet. Diller Oil & Gas Co. No. 1 Key "B," SW SW NW section 25-31-10, was drilling at 2,055 feet. C. E. Skiles No. 1 Landon & Floyd, NW NW SE section 23-32-10, had Mississippi lime at 1,945-66 feet, total depth; pumped 12 bbls. of oil per day and was to acidize. Sagamore Oil Co. No. 1 Landon & Floyd, NW NE NE section 25-32-10, topped Mississippi lime and set 5-inch casing at 1,951 feet, and was cleaning out. Morrow & Sons No. 1 Floyd, C NE NW section 31-32-11, topped lime at 1,975 feet; had pay at 2,010-22 feet, pumped 7 bbls. of oil per day and was preparing to acidize.

Oklahoma Fields

(Continued from Page 67)

pumped 80 bbls. of oil with a trace of water, completed. Schermerhorn Oil Co. No. 36 fee, SW SW NE section 5-4s-3w, was bottomed at 1,060 feet in sand, was shot and pumped 127 bbls. of oil in 24 hours, completed. Skelly Oil Co. No. 1 T. Miller, NE NW NE section 5-1s-3w, Carter County sector of Tussy area, was bottomed at 2,806 feet, pumped 88 bbls. of oil in 24 hours, completed. It swabbed as high as 155 bbls. of oil in 21 hours.

Jones Brothers No. 1 Humble-Dillard, NW SW SE NE section 22-4s-2w, an old well being deepened, was drilling at 1,609 feet. Sinclair Prairie Oil Co. No. 3 Million & Thomas, NW SW SE section 5-4s-3w, an old well being deepened, was drilling at 1,000 feet.

Marshall County

Stewart & Taylor No. 1 Chestnut, NE cor. section 23-8s-5, Marshall County wildcat, an old well being deepened, was drilling at 615 feet. Levelle Coal Co. No. 10 Brent, SE NE SE section 1-8s-5, was drilling at 297 feet.

Garvin County

Cox & Hamon No. 6 Davis, NW SW SE section 32-1n-3w, Tussy area, Garvin County, was a rig. Skelly Oil Co. No. 1 Gross, SE NE SW section 32-1n-3w, was a location. Winkler & McQueen No. 1 Perkins, NW NW SE section 32-1n-3w, was building rig.

Kiowa County

Lykins and others No. 1-A Aetna Life, SE cor. section 9-5-16w, Kiowa County wildcat, was dry and abandoned in sandy lime at 851 feet, total depth.

Stephens County

The Texas Co. No. 4 Bohanan, NE NW NW section 15-3s-5w, Stephens County, had sand at 1,441-62 feet, total depth, flowed and swabbed 52 bbls. of oil in 24 hours and was completed.

Raisen Brothers No. 9 Price, SW NE SE SW section 10-3s-5w, was a location.

Jefferson County

Bridwell Oil & Gas Co. No. 6 Wahlgemuth, NE SE NW section 30-6s-5w, Jefferson County, had sand at 1,468-86 feet; total depth, 1,519 feet; pumped 92 bbls. of oil in the first 24 hours and was completed.

Bridwell Oil & Gas Co. No. 7 Wahlgemuth, SE SE NE section 30-6s-5w, was rigging up rotary tools. Palmer and others No. 1-A Barrett, SE SW SW section 19-6s-5w, was rigging up rotary tools.

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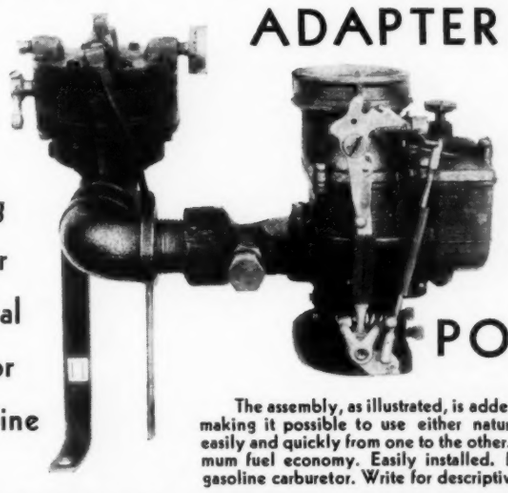

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North Louisiana, Arkansas

SLIGO OIL FIELD EXTENDED ONE MILE BY 800-BBL. WELL

By
MITCHELL TUCKER

SHREVEPORT, La., Dec. 14.—The recently discovered Sligo oil field, on the western flank of the old gas area, received a 1-mile extension northward when United Gas Public Servico Co. No. 1-G Skannal, SE NE section 22-17-12, tested 35 bbls. hourly through three-eighths inch tubing choke, with equalized tubing and casing pressure of 750 pounds, bottom-hole pressure 2,300 pounds. Production is from the Oolitic lime zone of Lower Glen Rose, 5,152 feet to 5,170 feet, total depth. The discovery well tested 480 bbls. daily on initial test, but this new completion appears to be good for an 806- to 900-bbl. well. Three new locations have been announced following this completion.

The order issuing from the public hearing held on the Louisiana side of the field at Baton Rouge on November 27 is expected to be announced this week. Operators are giving consideration to reconditioning the 58 wells which are exposed to more than one producing formation in conformation with the Department of Conservation's recent order. The setting of short strings, or cement squeeze jobs with specially prepared retarded-action cements, are considered likely to be used for this purpose. Successful jobs of both kinds have been accomplished in the past.

Texas Railway Commission engineers completed the bi-monthly bottom-hole pressure survey of the Cass County portion of the Rodessa field last week, but weighted average and declines have not yet been announced.

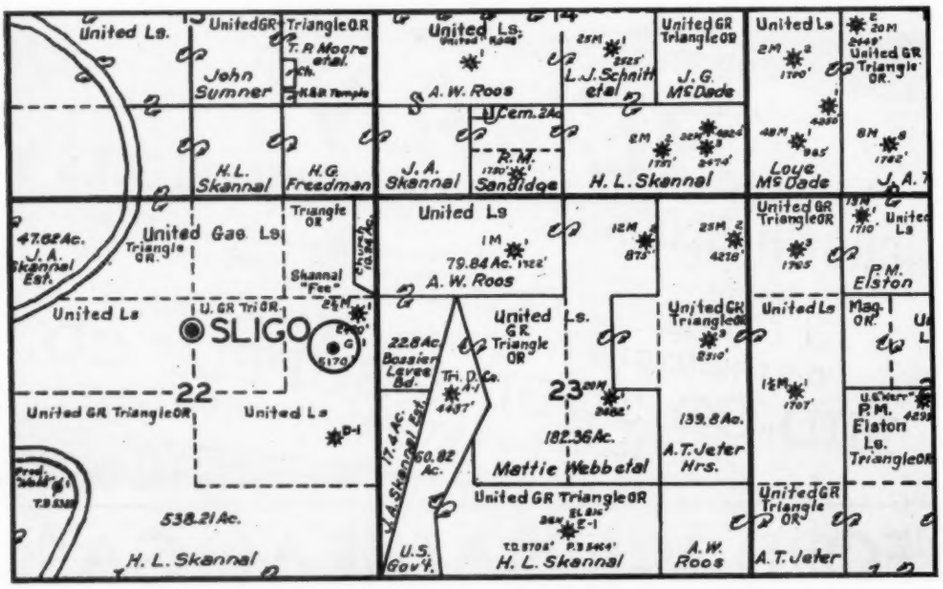
The wildcat test 13 miles southwest of Rodessa's western producing limit is now drilling and coring near the top of the anhydrite at about 5,000 feet, which will serve as the first accurate marker for this territory. The well referred to is Holcomb and Thomason No. 1 Lizzie Henderson, R. Bennington Survey, Marion County.

New Test in Marion

Marion County, Texas, received assurance of its second test of the Rodessa structure when Arkansas Natural Gas Co. announced location for their W. S. Ford No. 1, to be situated 467 feet south and east from the northwest corner of the Ford 402-acre tract, and 7 miles southwest of present production in Cass County.

Te United Gas Public Service Co. is reported to be closing a deal with Shell Petroleum Co. to deliver the latter firm a large proportion of their Rodessa production at Longview, Tex., the terminal of their 8-inch line.

The first well on the Cass County side of Rodessa field to be placed on the pump is United Gas No. 1 Cunningham, on the northern flank of production in the W. Robinson Survey. It is expected that the pumping units now being installed along the northern flank will serve to agitate the wells only for some time, as by such action the wells are able to flow their allowables, whereas before they were not.



One-mile-northward extension to newly discovered Sligo gas field, on western flank of gas area. United Gas Public Service Co. No. 1 G-1 Skannal, section 22-17-12, completed last week flowing 35 bbls. hourly through three-eighths inch choke. Discovery well is in section 26-17-12.—(Walter E. Wylie, Maps, Shreveport)

Rodessa Completions

Rodessa completions for the week were as follows:

McAlester Fuel Co. No. 2 N. S. Tyson, center of section 22-23-16, flowed 12 bbls. per hour through one-fourth inch tubing choke, after perforating and acidizing, tubing pressure 450 pounds, casing pressure 900 pounds, total depth 6,016 feet.

Standard Oil Co. of Louisiana No. 1 Farmer, SW NW SW section 7-23-15, flowed 10 bbls. per hour through one-half inch tubing choke on initial test, tubing pressure 150 pounds, casing pressure 750 pounds, total depth 6,088 feet.

American Liberty No. 2-B Baugus, Lot 14, J. H. Rives Survey, Cass County, Texas, flowed 391 bbls. in 24 hours through one-fourth inch tubing, saturation topped 6,000 feet, total depth 6,022 feet.

Magnolia Petroleum Co. No. 14 J. E. George, John Collom Survey, flowed 10 bbls. per hour through one-fourth inch tubing choke, tubing pressure 400 pounds, casing pressure 300 pounds, total depth 6,125 feet.

Magnolia Petroleum Co. No. 1 Meda Green, SW corner of Robert Trammel Survey, flowed 10 bbls. per hour through three-sixteenths inch tubing choke, tubing pressure 500 pounds, casing pressure 450 pounds, saturation topped 5,973 feet, total depth 6,033 feet.

R. W. Norton No. 3 J. T. Moore, Wm. R. Myers Survey, flowed 459 bbls. in 24 hours through one-fourth inch tubing choke, tubing pressure 625 pounds, casing pressure 525 pounds, ratio 540 to 1, total depth 5,990 feet.

Phillips Petroleum Co. No. 1 Farrier, William R. Myers Survey, flowed 347 bbls. in 24 hours with 15,000,000 feet of gas through one-fourth inch casing choke, 2-inch tubing set with packer at 6,025 feet, total depth 6,050 feet.

Texas Co. No. 1 J. B. McLeod, W. A. Elliott Survey, flowed 38 bbls. hourly on initial test through 1-inch tubing, tubing pressure 115 pounds, casing pressure 500 pounds, total depth 6,114 feet.

United Gas No. 7 J. R. Jones Unit, Ben J. Murray Survey, flowed 37 bbls. hourly through one-half inch tubing choke, saturation 6,008-37 feet and 6,049-55 feet, total depth 6,055 feet.

Bienville Parish

DeSoto Oil & Gas No. 1 Dunn and Olsen, center N half NW section 16-16-10, 6 miles west of the Elm Grove gas field, appeared as a possible gas pool opener when drill-stem test was made in the Oolitic lime topped at 5,200 feet, indicating 5,000,000 feet of gas through three-eighths inch choke, total depth 5,235 feet. Casing has been ordered in preparatory to testing the showing.

Caddo Parish

Gulf Refining Co. No. 1 E. P. Hatcher, SW SE section 11-17-15, deep test of the Cross Lake region south of Shreveport, is drilling below 7,446 feet. The Gulf's block upon which this well is located was shot and reshot by seismograph before making location, and it is reported that the structure mapped is being confirmed by drilling, although saturation has been lacking thus far.

Producers Oil & Gas No. 2 Currie, NE SE section 32-19-16, Nacatoch test of the Blanchard area, has been abandoned in that formation, total depth 950 feet, after testing salt water only.

Simplex Oil No. 5 Natalie, SE SE section 10-20-15, flank of Caddo field, tested only salt water at total depth of 2,197 feet, and has been abandoned.

Franklin Parish

Snyder and Sherrouse No. 1 Kimbee, center SE SW section 36-12n-8e, topped the Wilcox sand at 2,804 feet and cored salt water sand to depth of 3,000 feet, where well was abandoned.

Red River Parish

W. J. Hunter and others No. 1 Long Bell Lumber Co., NE section 19-13-9, drilling alongside whipstock, penetrated the previously discovered sand from 3,706-3,719 feet, and operators are now making arrangements to take drill-stem test.

Claiborne Parish

E. T. Oakes, H. D. Easton, and others, No. 1 W. H. Patton Estate, NE corner section 1-20-5, loomed as a probable pool opener last week when a saturated sand in the Travis Peak was penetrated at 5,315 feet and drilled to 5,359 feet, coring was done from this point to 5,379 feet, logging a heavily saturated sand through 62 feet. Schlum-

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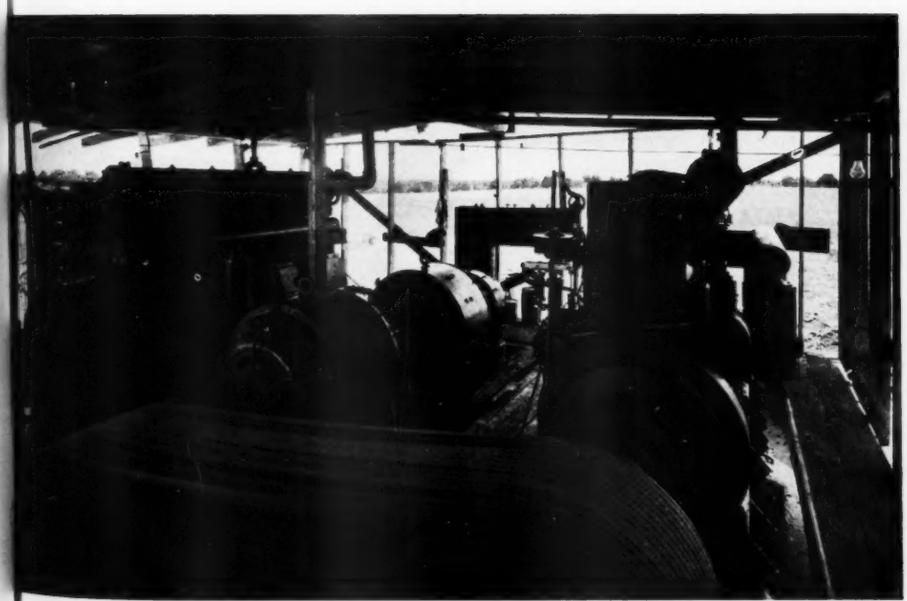

Shown here is the Atlas Diesel-Electric rig which the Denver Oil & Refining Company is using in its operation at Moore, Oklahoma, on an 8,000 to 8,500-foot well.

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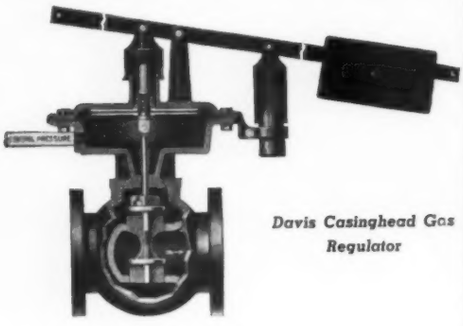

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berger tests confirmed the saturated section. The 5-inch casing has been set at 5,305 feet in preparation for thorough testing. Total depth 5,379 feet. The test is situated on the northern flank of the Sugar Creek gas field.

United Gas and others (Sugar Creek Syndicate) No. 1 A. P. Taylor, SE corner 5-19-5w, southern flank of the gas area, failed to encounter gas saturation in the 5,800-foot or 4,900-foot gas levels, and has been abandoned. Total depth 5,926 feet, plugged back to 4,900 feet.

Richland Parish

Gulf Refining Co. No. 15 R. R. Rhymes, section 32-17-6e, promised as North Louisiana's deepest test, is now drilling below 8,200 feet in the Richland gas field, where the Gulf company owns the majority of oil rights.

Sabine Parish

F. G. Cox and Whitehurst No. 1 Whitney Corp., NW NE section 8-9-13, Glen Rose test of Converse field, ran 2½-inch tubing to 4,365 feet and began testing. The well was cased with 8-inch at 3,585 feet, and remainder of hole is open. After blowing in from the Oolitic lime near total depth of 5,503 feet a great deal of trouble has been experienced in conditioning hole to run pipe. The well is now blowing some 35,000,000 to 40,000,000 feet of saturated gas up through bridges in the open hole to point where tubing is set. Testing is being continued, while it is reported that rig will be skidded for another test of the 5,500-foot horizon.

J. R. Keen No. 1 Long Bell Mining Corp., SE NE SW section 5-8-13, is reconditioning hole after cavings fell in while swabbing. Total depth 2,069 feet, and fluid level has been standing at or near 1,800 feet until cavings came in.

Webster Parish

Woodley Petroleum Co. No. 2-B L. C. Cos, SW SW section 23-21-10, appears to be the only one of eight tests which were begun following discovery of oil at 5,500 feet that has found the saturated zone in the discovery well. Topping the Travis Peak at 5,512 feet, the Holloway sand was drilled from 5,537-44 feet and cored 5,544-57 feet. Sand tested 19 per cent porosity, but saturation not reported. The 9-inch pipe has been set at 5,524 feet preparatory to testing.

Seaboard Oil Co.'s northeast Cotton Valley test, No. 1 Land and Lumber Co., NW SW section 35-22-10, topped the Travis Peak at 5,961 feet, and has been abandoned at 6,084 feet ,finding salt water only. The Travis Peak of Lower Trinity was touched at sub-sea depth of 5,761 feet, compared with a sub-sea of 5,394 feet in Cotton Valley field proper.

ARKANSAS

Cleveland County

A. B. Diffie No. 1 L. C. Ross, NE SW NE section 11-11-11, has been abandoned after setting surface pipe at 101 feet in July, 1936, without further drilling.

Columbia County

King Oil Co. No. 1 Kitchen, NE SE NW section 13-17-22, developed fishing job for drill pipe at total depth of 3,824 feet, and has been junked and abandoned.

Grant County

Wallace and Staples No. 1 W. F. Davis, SE SE NW section 23-6-15, reported showing of gas in sand cored from 1,860-69 feet. Drill-stem test will be made.

Miller County

The Texarkana territory has taken on new life with attractive showings being reportd in deep tests to the west and south of the city.

Odell Hinson and others No. 1 Montana Realty Co., NE NW NW section 3-17-28, 8 miles south of Texarkana, is bottomed at 5,278 feet, where plug is now being drilled in preparation to test. The 7-inch casing was set at 5,270 feet after high pressure gas showings were evidenced in the Oolitic lime section of Lower Glen Rose. Oil showings in this same section have also been reported.

C. V. Lenz No. 7 Dale, section 24-15-26, 15 miles west of Texarkana, is swabbing fluid (practically all oil) 500 feet off bottom. Level rose to 1,800 feet while swabbing, and operators are continuing to test. Saturation was cored from 4,210-16 feet, sand tested 18.5 porosity, 52 gravity oil, total depth 4,216 feet.

Nevada County

Activity in the newly discovered Troy field continues with new completions for the week. Benedum-Trees Oil Co. No. 3 Grove, SW SE NW section 10-14-20, one location south of discovery well completed at the 2,100-foot level in Basal Upper Cretaceous, was completed in the Nacatoch formation, and pumped 173 bbls. daily on initial test, no water, oil gravity 14.8, total depth 1,243 feet. The two oil producing zones here apparently are distinctly separate, as the lower zone produces a 21 to 22 gravity oil.

Benedum-Trees Oil Co. No. 1 Fincher, NW SW NE section 10-14-20, two locations east of discovery well, cored 3 feet of gas sand 1,218-21 feet, drill-stem test indicating 35,000,000 feet of gas. Cored oil sand 1,232-44 feet, drill-stem test showing 100 feet in 1 hour. Drilling was continued to the 2,100-foot level, encountering saturation 2,143-50 feet and drill-stem test showed 1,300 feet of oil in 45 minutes. The 7-inch pipe has been cemented at 2,145 feet, total depth 2,150 feet.

Estimated Daily Production

Estimated daily gross production all companies week ending December 11, 1936:

NORTH LOUISIANA

Bellevue	790
Caddo light	3,895
Caddo heavy	2,640
Converse	980
Cotton Valley heavy	250
Cotton Valley light	575
De Soto and Red River	1,360
Elm Grove	345
Haynesville	3,275
Holly	145
Homer	2,565
Pleasant Hill	150
Rodessa	57,665
Sarepta-Carterville	425
Sligo	90
Urania	2,850
Zwolle	855
Total	78,855

SOUTH ARKANSAS

Champagnolle	2,125
El Dorado	2,100
Lisbon	285
Miller County	565
Nevada	835
Smackover light	2,105
Smackover heavy	17,545
Stephens	590
Troy*	500
Urbana	1,565
Total	28,215

Texas side of Rodessa field—24,320 bbls. daily.

*New field discovered recently in Nevada County Arkansas, sec. 10-14-20, 3 miles southeast of Nevada (Irma) field—2 wells producing, 1 shallow well producing from 1,250 ft., 150 bbls. daily, 14 gravity, and 1 producing from 2,190 ft., 350 bbls. daily, 21 gravity.

Ouachita County

Arkansas Fuel Oil Co. has completed the seismograph survey of its block northwest from Snow Hill, and it is reported it regards possibilities here sufficiently to refuse attractive offers for its

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acreage. Tide Water Oil Co. and Lion Oil Co. both have seismic crews checking this area.

EAST TEXAS (Border Counties)

Eleven geophysical crews continue to detail structure along the border counties of Eastern Texas. Humble is keeping its unit in the northeastern part of Bowie County, and also has a crew detailing in the Cass County School Land Survey west of Rodessa. In Marion County Phillips Petroleum Co. is mapping the area west of Jefferson, Tex., where this company is slowly adding to its holdings. The six crews in Panola County are as follows: Amerada southeast of Carthage; Humble west of DeBerry; Sinclair 9 miles east of Taneha; Stanolind south of Long Branch; United Gas on flank of Bethany field, and Magnolia north of Glassell's newly discovered gas-distillate pool. Near Taneha in Shelby County the Arkansas Natural Gas is sponsoring a crew, while Texas Co. has unit 3 miles south of Shelbyville.

Harrison County

Hanover, Bergendoll and others No. 1 Buchanan, in the William McIlvain Survey, has been abandoned as dry hole at 4,200 feet, total depth.

Geyer Oil Co. No. 2-A Vincent, S. B. Harrison Survey, 4 miles south of Wascom, was completed in sand 2,407-50 feet, pumping 30 bbls. of 39 gravity oil daily, total depth 2,452 feet.

Panola County

Lawler Petroleum Co. No. 1 Bucknell, No. 1 Anderson Survey, is bottomed at 5,980 feet in what is believed to be the Pettit sand (lowermost section of Glen Rose), and Schlumberger test is being made.

Motex Oil Co. No. 1 Furrh, Alstone Survey, total depth 5,136 feet, is preparing to set casing after oil and gas showings were reported below 5,037 feet.

Magnolia Petroleum Co. was reported to be preparing to run casing for test of the oil and gas show reported near 5,940 feet, total depth, in their No. 1 Hull, Applewhite Survey.

Shelby County

About one-quarter mile south of H. A. Stebbinger's recently completed gas-distillate discovery well in the C. E. Henry Survey, the same operator has staked location for No. 1 Pickering Lumber Co. on a 160-acre tract in the A. Hanson Survey.

West Texas Fields

(Continued from Page 72)

Bagley, 620 feet, dry; No. 1 Stewart, 610 feet, dry. Hamilton and others No. 19 Jeffery, 830-34 feet, 15 bbls. Kimmel-Lea & Co. No. 3 Prideaux, 636-57 feet, 25 bbls. Lupton & McLester No. 1 Medley, 3,716-50 feet, 375 bbls. J. E. McDonald No. 1 E. W. Hunt, 962 feet, dry; No. 5 J. K. Jeffery, 815-21 feet, 40 bbls. Panhandle Refining Co. No. 14 Prideaux, 744-55 feet, 5 bbls. E. C. Reed No. 4 Cunningham, 539 feet, dry. S. H. & S. P. Schmitt No. 7 Andrews, 892-923 feet, 40 bbls. Swink & Skinner No. 3 Logan, 640 feet, dry. White & Duncan No. 3 Prideaux, 716-50 feet, 10 bbls.

PANHANDLE COMPLETIONS

Carson County

Gulf Oil Corp. No. 10 Block, 2,970-3,100 feet, shot, 632 bbls. on pump.

Gray County

Kewanee Oil & Gas Co. No. 3 Hughey, 2,959-3,030 feet, shot, 283 bbls. on pump. Moran Drilling Co. No. 4 Holmes, 3,100-3,330 feet, 547 bbls. on pump. Vulcan Oil Co. No. 2-A Kinard, 2,270-2,336 feet, 161 bbls. on pump.

Hutchinson County

Gulf Oil Corp. No. 8 Pitcher, 3,120-95 feet, shot, 127 bbls. on pump. Huber Petroleum Corp. No. 1 Albertson, 2,265-2,655 feet, plugged back to 2,570 feet, 20,340,000 feet gas.

Moore County

Continental Oil Co. No. 1-A Jones, 2,810-3,210 feet, 34,400,000 feet gas; No. 1-B Jones, 2,820-3,140 feet, 41,167,000 feet gas.

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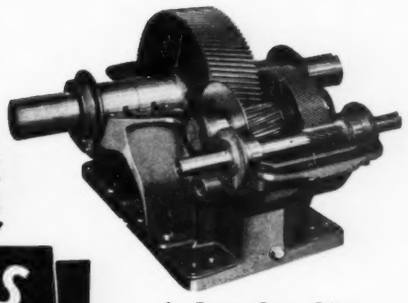

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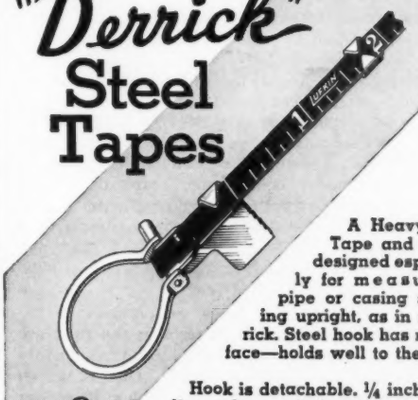

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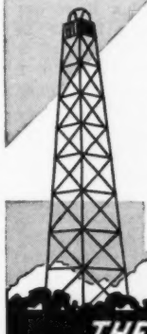

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Southwest Texas District

By GEORGE WEBER

NEW POOL, A WILD GASSER, EXTENSIONS AND DEEP PAYS

HOUSTON, Tex., Dec. 14.—A completed extension to the Hoffman field of Duval County, indications of production in a new and deeper sand in the Saxet field of Nueces County, possibility of a strike in Burleson County of the Edwards Plateau area, and opening of production in a Guadalupe County wildcat attracted the attention of Southwest Texas operators during the past week.

Activity in the drilling of new tests, both in wildcat and field locations saw an increase generally, with many new locations made throughout the area. A third wild well in the past few weeks blew out in the Saxet field of Nueces, catching fire and cratering. The test indicates a possible important extension to the field, located a considerable distance south of production in the Clarkwood area.

Several wildcats which had attracted considerable attention while being drilled, were abandoned as failures during the week. Dry holes in several fields delimited production in those areas also. On the other hand, new wildcat locations made recently promise to show important developments. Duval County gains three tests, one of which will be drilled in the northwest corner of the county in the vicinity of a prospect there, and another will be drilled about 2½ miles south of the Hoffman field which was this week extended nearly a mile to the north and east.

Saxet Field

The Saxet field continued to hold primary attention in the Lower Coastal area. A drilling campaign to explore the newly opened 6,300-foot horizon is under way, which may grow to the intensity of the recent boom in the 5,800-foot Frio sand of the field. During the week, three wells were completed in the sand although none of them has been officially gauged. Pan American Production Co. No. 4-C Morgan located on the west side of the field tested gas and distillate and 30 feet of oil in sand at 6,248-81 feet. In Block 37 of the Sheppard Farm Lots, the Republic Natural Gas Co. has two new wells in the sand on the Dunn lease. Besides the three deep sand completions, four wells were brought in in the Frio section of the field, and six producers were added to the 4,400-foot and 4,500-foot sand section of the field found in the vicinity of Clarkwood, and extending eastward.

In addition to the three completions in the 6,300-foot sand, four drilling tests in the field are below 5,800 feet, the last producing horizon before encountering the 6,300-foot sand. One of these, Paul Benedum No. 1 Harmon, which blew out recently from that sand, is running tubing to complete in the sand.

From the showings of Lonnie Glasscock No. 1 Hunter, a Saxet test, the possibility of opening still deeper production in the prolific field was indicated. The Glasscock well, in the Page Survey, cored below the 6,300-foot horizon and encountered sand at 6,736 feet which had a show of oil. Success of this test will still further enhance the value of the field, which already is producing from a number of sand horizons. Drilling activity, which has been sustained at record proportions in Saxet during the past several weeks by development of the 5,800-foot sand, shows no indications of falling off; with increased drilling going to the Clarkwood and 6,300-foot areas.

Another Blowout

The blowout of the week is the Bryant & Howell No. 1 Kocurek, a south outpost test, drilled in Survey 25 about 1 mile south of the town of Clarkwood. The test blew out when coming out of the hole bottomed at 3,125 feet, and after blowing gas and mud with a small amount of oil, it ignited and cratered. No plans for its control have been announced at latest reports. The test is also located 3,500 feet west and slightly north of Nelson No. 1 Buckholt which opened production in the area south of Saxet last year.

Saxet Heights activity continues to decline, and completions show the limits of the field's production from the present horizon. Four new producers were brought in, two of which were making salt water together with the oil, and two dry holes further defined the field production. The success in opening deeper sands in Saxet has not obtained in Saxet Heights yet, but the character of the substructure in that district makes discovery of deeper production not improbable.

Clara Driscoll Field

The Clara Driscoll field is attracting interest currently due to reports concerning the W. D. Hines No. 1-A Sevier. The test, located northwest of production in the field, is reported to be making quantities of gas and distillate under pressures ranging around 2,000 pounds from sand at 5,825-50 feet. Direct information on the test is being withheld by operators. Magnolia Petroleum Co. completed No. 1 Sevier, the company's first production in the field, for an estimated 10 bbls. per hour through one-quarter inch choke. Seven-inch casing was set at 3,816 feet.

Flour Bluff, in the same county gained three new producers during the week. Completion of the Humble Oil & Refining Co. and others No. 1 Webb extended production to the north, and the same operator's No. 1 Webster, located on the south edge of production, extended the field in that direction. Continued drilling in this field on an orderly basis will soon show the extent of the Flour Bluff field. The sand body and structure indicate that it will be one of the important producing areas in the Lower Gulf Coast.

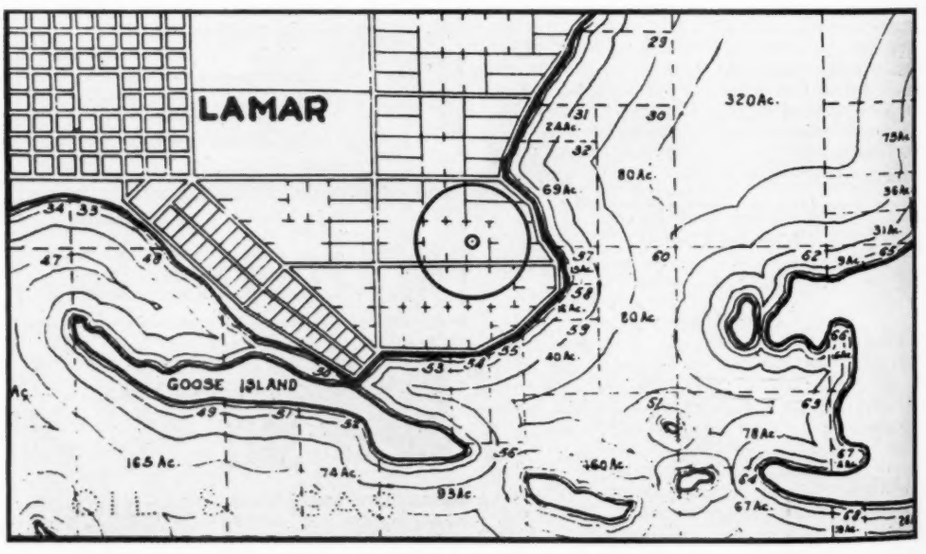
Wildcatting

Wildcatting in the Lower Gulf Coast developed no indication of new production during the week. One test, located 16 miles southwest of Corpus Christi on a geophysical high was abandoned at 7,205 feet without any showings. In San Patricio County, the Eleanor Oil Co. No. 1 Kline, which caused considerable interest recently, has plugged back from a total depth of 6,840 feet to 6,343 feet and will perforate at 6,297-6,305 feet where a good sand was cored.

To the south and west of San Patricio County, three old fields are seeing a revival in activity. In Jim Wells County the Sandia field has two tests drilling, and the Kingsville field of Kleberg County has one active test and a completion. In the southwestern corner of Nueces County a location has been made for a deep test in the old Stratton field, a one-well gas field. This test will be watched with considerable interest.

In Aransas County, the Barnsdall Oil Co. No. 1 Kate Edwards, a wildcat drilling east of Lamar, has set 1,200 feet of casing and will soon approach an interesting depth. The test is the first of several planned for the Rockport area, which has been actively surveyed by geophysics and leased in the past few months.

In the Edwards Plateau area, one deep test was abandoned and another was still testing for production. The Paul Teas No. 1 Vinklarek, which last week tested sulfur water at 7,142 feet was abandoned. It is located in Fayette County near the Bastrop County line. The other test, Red Bank Oil Co. No. 1 Grann is bottomed at 6,241 feet in the Edwards lime. On a drill-stem test at 6,216-41 feet 180 feet of oily mud with some heavy oil was recovered in 15 minutes.



Surface casing has been set on the Barnsdall Oil Co. No. 1 Kate Edwards, indicated by the circle, the first of several projected wildcat tests to be drilled in Aransas County. The test will be watched with interest as it approaches the depth of sands which produce in the Saxet, Flour Bluff, Plymouth and other fields located in the same trend as the wildcat.—(Porter Regenold, Maps, Corpus Christi)

Casing is being run and a Schlumberger survey taken.

Guadalupe Discovery

New production was reported opened in Guadalupe County by the completion of Detroit Texas Development Co. No. 1 Carter in the Highsmith Survey. The test has been swabbing for completion at 2,356 feet for several weeks. In the same area, the Branyon field of Caldwell County and the Clark and Darst Creek fields of Guadalupe County are seeing considerable activity.

The Hoffman field of Duval County gained the most important development during the week, as the Bridwell Oil Co. and Gorman-Yoakam Drilling Co. No. 1 Hoffman, northeast outpost test, was completed in the Loma Novia sand for 50 bbls. per day estimated. Loma Novia and Seven Sisters gained the usual number of new wells, without any important extensions. The former field was delimited on the north by the failure of Humble Oil & Refining Co. No. 17-C Welder, in Survey 554.

Lopez, O'Hern, Escobas and Haynes, other active fields of the Laredo district, showed gains as several new producers were added and new locations exceeded the completions. A number of wildcats are getting under way in Webb, Zapata and Duval counties, as well as drilling in the smaller fields of the area. In Duval County, the Charamousca field, located southwest of S.R.C. failed to show development, with the failure of N. V. Duncan No. 1 Worden-Drought. The Loma Vista field, east of Loma Novia is apparently faring no better, with the single active test in the area, Atlantic Refining Co. No. 1-H Welder drilling below 2,935 feet with no shows.

Gulf Coast Fields

(Continued from Page 59)

Parish, Superior Oil Producing Co. No. 1 Crowley is bottomed at 6,448 feet and 7-inch casing has been cemented at 5,616 feet preparatory to testing a shallower sand encountered between 5,400 and 5,500 feet.

At Black Bayou, Calcasieu Parish, Shell Petroleum Corp. No. 35 Watkins was completed at 5,462 feet and flowed 602 bbls. per day through a quarter-inch choke with tubing pressure 617 pounds and casing pressure 710 pounds. Location is in section 8-12s-12w.

Two wells are scheduled to be completed on the west flank of the New Iberia field in Iberia Parish. Harry Fotiades No. 3 Gulf Land is bottomed in sand at 4,507 feet with 7-inch casing cementing at 4,115 feet, while to the east William Helis No. 3 Bullok is bottomed at 4,265 feet with 7-inch casing cemented at 3,857 feet.

In the Lafitte field, Jefferson Parish, Texas Co. No. 1 R. C. Milling and others, located in section 20-17s-24e, cored sand showing oil from 9,416-21 feet and sandy shale showing oil from 9,421-43 feet and is drilling ahead for the 9,600-foot sand below 9,503 feet. Same company's No. 5 Rigolettes in section 29 is drilling in shale and lime in a side-tracked hole below 8,553 feet.

Herton Oil Co. No. 3 Carter, located at the Jeanerette field, St. Mary Parish, cored oil sand at 6,723-37 feet and is preparing to make a drill-stem test following the running of an electrical coring test. Same operator's No. 6 Banta is a new location in section 40 and has been spudded in, while to the east and due south of the company's No. 1 Bayou Teche, recently abandoned, A. U. Morrison has made location for No. 1 Matilda Plantation in Lot 3½, section 70-13s-9e.

Michigan Fields

(Continued from Page 56)

Township, Lenawee County, another test near the southern boundary of the state

Charles Van Keuren and Keith B. Montigel were hurrying to complete another Trenton test, the No. 1 Hiawatha Sportsmen's club project, C W W NW section 9-44n-9w, Garfield Township, Mackinac County, in the Upper Peninsula, where several feet of snow already has threatened to end work until spring. The test is located 7 miles from a main highway.

Jacob Bolema has completed removing collapsed casing from the No. 1 Red Wing Development Co. test, NW NW NW section 15-21n-16w, Manistee Township and County, at 2,180 feet with prospects of early completion in the Sylvania.

Taggart Brothers, Inc., have temporarily abandoned the No. 1 Waters, NW SW SE section 28-16n-8w, a Chippewa Township wildcat in the same county. They were nearing the Michigan Stray gas sand in their No. 31 on State land, C NE NE section 14-14n-9w, Austin Township, last week.

Two Osceola County tests have resumed drilling, on in Cedar Township at about 1,400 feet and the other in Marion Township reaching 1,700 feet.

New Locations

Mammoth Producing & Refining Co. took out a permit last week from the state conservation department for a wildcat test, No. 1 Prescot, SW NW SW section 22-21n-4e, Richland Township, Ogemaw County. It was one of 15 state permits, all in proved areas with the exception of this and two Arenac and one Sherman-Isabella location previously mentioned in this report.

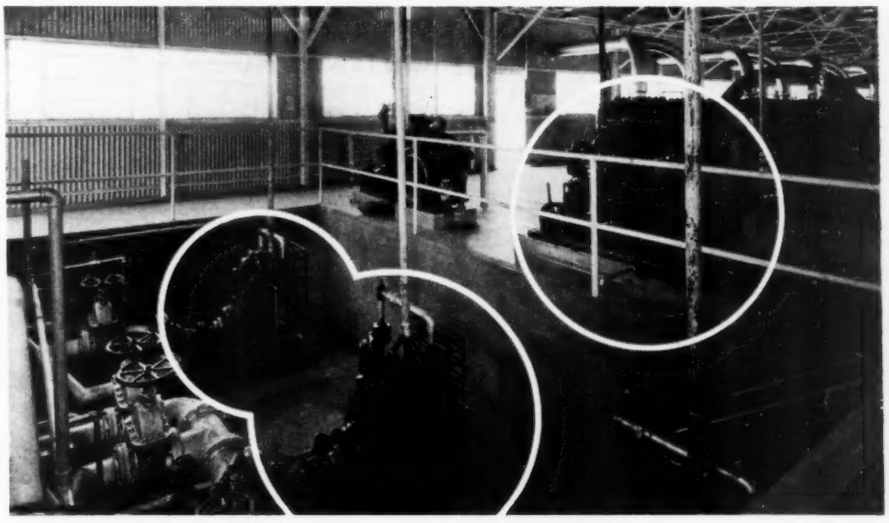
Drilling of a new test recently announced for Croton Township, Newaygo County, on a 4,000-acre block soon will be started, it was announced by M. R. Schemahorn, trustee for the operating syndicate.

Pure Oil Co. has made three new locations in Jasper Township, Midland County, to be started soon, while Burks White will drill the No. 7 Opperman in section 12, Greendale Township, Midland County.

Two tests in Mecosta County originally completed in the Michigan Stray gas sands will be deepened to the Dundee for oil, namely: Sherrit Oil & Gas Co. No. 3 Gingrich, section 12, Sheridan Township and Taggart Brothers No. 1 Peterson, section 33, Colfax Township.

H. E. Bell was moving in for a test on the Delo farm, section 17, Fremont Township, Isabella County, about 2 miles west of a Pure Oil Co. test in the same township which struck a good show of oil in the Dundee more than a year ago but failed to develop commercial output.

Reduced Power Costs



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California Field Report

By
L. P. STOCKMAN

BIG WELLS IN POOLS WHERE SMALL PRODUCERS PREVAIL

LOS ANGELES, Calif., Dec. 14.—Completion of General Petroleum Corp. No. 1 Terminal in the Wilmington district adjacent to Los Angeles harbor, and Richfield Oil Co. No. 1 Universal in the El Segundo field of Los Angeles Basin, featured drilling operations in California during the past week. Both wells indicate the existence of a substantial accumulation of oil and gas in areas which have been characterized by relatively small pumping wells. The El Segundo field discovered by Republic Petroleum Co. late in 1935, and the Wilmington area, will be aggressively developed, although operators have tentatively agreed to limit drilling not more than one well to each 10 acres.

Operators will formulate a uniform but not a unitized drilling program, involving well spacing and standardized casing, and will be allowed to drill as many wells as they see fit, unless production gets beyond bounds. Eight locations have already been staked in the El Segundo field and immediate drilling is expected to be started by Associated Oil Co., Republic Petroleum Co., Caminol Oil Co. and the Texas Co.

El Segundo

Richfield Oil Co.'s new well in the El Segundo field was brought in under a natural flow and during the first 24-hour period produced 2,533 bbls. of clean 27.2 gravity oil and 1,550,000 feet of natural gas. Drilling operations were concluded in schist at 7,435 feet and the hole finished with a 7-inch water string landed at 7,322 feet and 155 feet of 5-inch liner including 112 feet of perforated. Top of the Nodular shale was logged at 7,204 feet and top of the Conglomerate oil sand at 7,329 feet. The bit hit the basement, schist, at 7,432 feet and drilling operations were stopped after drilling into the schist for 3 feet. Richfield's new producer, located on acreage acquired from the Universal Consolidated Oil Co., is south of previous development and the large production secured indicates rather conclusively that the most productive section of the field is south or southeast of the discovery well. This is especially interesting because this southeast trend may ultimately bring the productive limits of the El Segundo and Lawndale fields very close together.

Although several deep tests have been drilled between the Lawndale and El Segundo fields, development may prove that El Segundo and Lawndale are one field. The Conglomerate, on top of the schist in the Playa Del Rey and El Segundo fields, was proven highly productive several years ago by the Ohio Oil Co. in the former area. Only a limited amount of normal oil sand was encountered in the deep zone at Playa Del Rey, but the Conglomerate sustained town-lot development for an extended period, ultimately resulted in the discovery of the El Segundo field. Richfield Oil Co. No. 1 Universal is the fourth commercial producer to be completed in El Segundo. It was brought in a short time after Federal Judge William P. James had approved consolidation of Richfield, Pan American and Rio Grande, a move sponsored by Consolidated Oil Co. and Cities Service Co.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

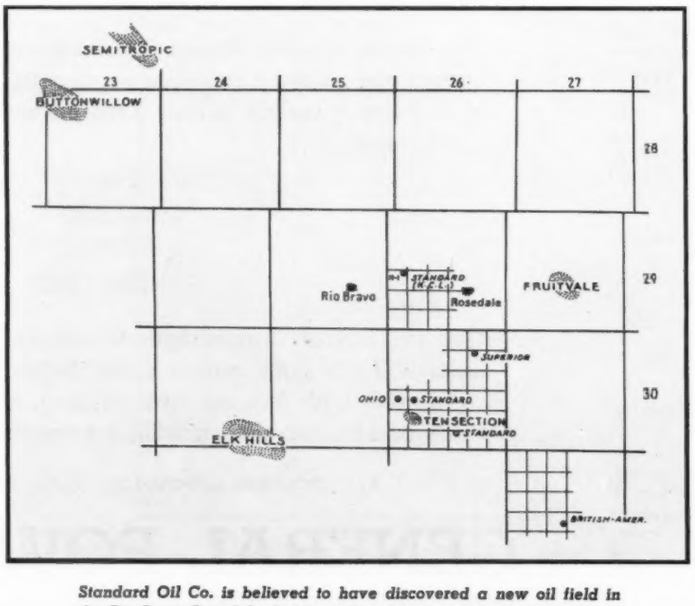
	November 29		November 22			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	231,426	639,387
Gasoline	.....	.....	118,244	16,892	5,493,496	6,940,060
Kerosene	.....	.....	.....	.....	1,128,379	830,445
Foreign exports:						
Crude oil	220,132	31,447	94,370	13,481	8,668,365	11,965,517
Fuel oil	323,310	46,187	155,180	22,169	9,806,905	11,317,797
Diesel and gas oil	273,229	39,033	163,136	23,305	5,481,362	5,359,830
Gasoline	49,557	7,080	397,745	56,821	7,378,725	6,327,415
Kerosene	43,373	6,196	50,629	7,233	1,447,371	1,184,363
Other unfinished oil	.....	.....	.....	.....	214,212	120,024
Coastwise-domestic:						
Crude oil	286,545	40,935	269,093	38,442	7,052,756	6,465,084
Fuel oil	271,167	38,738	306,458	43,780	10,118,562	8,681,342
Diesel and gas oil	46,380	6,626	.....	.....	1,089,022	1,079,813
Gasoline	420,383	60,055	268,590	38,370	11,895,193	10,663,863
Kerosene	4,449	636	.....	.....	163,537	175,198

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	218,603	158,152
Gasoline	.....	.....	.....	.....	285,959	.....
Kerosene	.....	.....	.....	.....	.....	149,715
Asphalt	.....	.....	.....	.....	327,418	484,597
Lubricants	.....	.....	4,017	574	47,560	60,320
Foreign exports:						
Crude oil	164,273	23,468	.....	.....	3,142,841	2,535,173
Fuel oil	.....	.....	.....	.....	2,354,929	2,112,349
Diesel and gas oil	.....	.....	.....	.....	1,849,928	915,307
Gasoline	63,971	9,139	.....	.....	3,682,566	2,768,092
Kerosene	6,780	569	.....	.....	614,323	638,344
Lubricants	.....	.....	.....	.....	362,367	183,490
Other unfinished oil	.....	.....	.....	.....	90,923	.....
Coastwise-domestic:						
Fuel oil	136,716	19,531	100,214	14,316	6,060,354	6,724,256
Diesel and gas oil	.....	.....	.....	.....	615,988	215,294
Gasoline	50,971	7,282	178,196	25,457	5,014,908	4,143,378
Kerosene	.....	.....	.....	.....	203,744	94,005

Wilmington

General Petroleum Corp. in the Wilmington district of Los Angeles Basin completed No. 1 Terminal flowing 1,389 bbls. of relatively clean 20.2 gravity oil and 380,000 feet of natural gas per day from the third productive horizon discovered by the company in this area. No. 1 Terminal was carried down to the schist at 6,814 feet but was plugged back to 3,648 feet, from which depth the well is at present producing. The hole was finished with a 5⅝-inch combination string including 526 feet of perforated, and which was cemented through perforations at 3,122 feet. Approximately 500 bbls. of 27 gravity oil was bailed and swabbed from the thin Conglomerate at 6,814 feet but the company was unable to develop commercial production in the deep zone either under a natural flow or by pumping operations. The existence of this 27 gravity refinable crude oil is interesting notwithstanding the inability of the company to develop commercial production as it tends to indicate the possibility that this Conglomerate zone may thicken out elsewhere in the area and prove commercially productive.



Standard Oil Co. is believed to have discovered a new oil field in the Rio Bravo-Rosedale district of Kern County, a few miles north of the Ten Section field discovered by Shell Oil Co. earlier this year

Santa Maria Valley

Union Oil Co., discoverer of the Santa Maria Valley field of Santa Barbara County, completed another excellent well in that area when No. 1 Vincent was brought in flowing 1,790 bbls. of clean 15.9 gravity oil and 255,000 feet of natural gas per day from 4,211 feet. With an 8⅝-inch water string landed and cemented at 2,937 feet, it was finished with a 6¾-inch liner including 1,270 feet of perforated and 4,100 feet of 3-inch tubing. No. 1 Vincent was bottomed in Franciscan metamorphics and due to the large penetration taken in the productive formation will probably show a substantial increase in production within the next few days. Union has two other wells, No. 2 Mahoney and No. 2 Adam, scheduled for early work and has staked location for No. 2 Moretti. The R. R. Bush Oil Co., drilling No. 1 California Lands as a joint well with Hancock Oil Co., should have this project ready for a production test within the next week as a core taken at 4,945 feet shows the existence of a sandy shale containing oil. The Apache Oil Co. is completing preparations to conduct an early production test on No. 1 Careaga in section 31-9-33 from 4,360 feet. The Echo Oil Co., drilling a well in section 23-10-34, in the Santa Maria Valley field, cored the top of the Monterey at 2,925 feet and is at present rotating ahead in an oily shale at 2,965 feet. This well should be ready for a production test before the close of another fortnight.

Padre Canyon

In the Padre Canyon field of Ventura County, General Petroleum Corp. completed No. 1 Padre flowing 277 bbls. of 29.6 gravity oil per day by heads following the conclusion of drilling operations at 4,917 feet. It will be put on the pump and is quite

probable production then will be more than doubled. The Padre Canyon field, which showed promise of becoming of primary importance, does not look very good at present as several wells finished subsequent to completion of Continental Oil Co.'s discovery have shown relatively small production. This area is badly faulted, however, and the small production of wells finished by General Petroleum, Chanslor Canfield Midway Oil Co. and Continental Oil Co. may be due to a pronounced unconformity in certain sections of the field.

Continental Oil Co., which is drilling a wildcat in the Red Mountain district of Ventura County, has just spudded in No. 6 Grubb in the extreme eastern end of the San Miguelito field but it should be another 60 days before the bit in this hole reaches the pay. Drilling operations on No. 6 Grubb will be watched with considerable interest because of the possibility that this well may be found to be located in the extreme western end of the Ventura Avenue field. Associated Oil Co. recently passed the 10,000-foot level in No. 12 McGonigle in the Ventura Avenue field and the formation at 10,015 feet is a hard sand with streaks of shale.

In the Capitan field of Santa Barbara County, Associated Oil Co. has concluded drilling operations on No. 1 Edwards, an outpost, at 2,450 feet and present plans call for a series of production tests to be made on the way out of the hole before final abandonment.

North Belridge

In the North Belridge field of Kern County, Associated Oil Co. completed No. 5 Reward in section 34-27-20, flowing 2,160 bbls. of clean 30.1 gravity oil per day from 9,027 feet after the hole had been finished with 716 feet of 4¾-inch perforated liner. It blew in with 8,075 feet of 3-inch drill pipe in the hole. The large production recorded by No. 5 Reward was rather surprising as a formation test at 8,354-8,907 feet with the valve open two hours resulted in a recovery of 1,200 feet of mud and water but no oil or gas. This indicates that production is coming from the interval between 8,907 feet and 9,027 feet.

In the Mountain View field of Kern County, Mid-State Petroleum Co. has completed No. 1 in section 19-30-29, flowing 194 bbls. of relatively clean 24.8 gravity oil per day from 4,658 feet. Mohawk Petroleum Co. No. 3 Hood in this field is rotating ahead a little below 7,700 feet but this deep test has not yet encountered any showings of unusual importance. Hogan Petroleum Co. has picked up the top of the Santa Margarita in No. 9 Porter Day at 6,028 feet and it should be ready for an early production test. Allied Petroleum Co. No. 20 in the Mountain View field, which was bottomed at 5,457 feet but later plugged back to 5,200 feet, will be permitted to produce for some additional time in the hope that the heavy head of gas can be reduced. It was given a preliminary production test a few weeks ago and came in flowing approximately 2,500,000 feet of natural gas and only a small quantity of crude oil. Present production approximates 50 bbls. of 28.4 oil daily.

Jasmine District

Union Oil Co. has recorded a lease covering 2,360 acres in sections 7, 8, 16, 17, 18, 19 and 20 in the Jasmine district of Kern County and while no definite plans have been announced, it is quite probable that a test will be drilled early in the new year, probably after the acreage has been given a seismograph survey. This lease, taken from the Harry Quinn Estate, was recently approved by the court on a petition from the administrators of the estate.

In the Kern River field, Bishop Oil Co. has successfully completed No. 10 Fano in section 23-28-27, pumping 210 bbls. of 15.5 gravity oil per day from 1,995 feet. National Oil Co. recompleted No. 4 Provident after redrilling and deepening the hole to 1,848 feet and the well was returned to production pumping 106 bbls. of 14.8 gravity oil daily. Associated Oil Co. No. 11 Reed Crude in section 34-28-28, in the older section of the Kern River field, failed to result in commercial production on a test made from 674 feet as the well was only good for approximately 5 bbls. of 15.1 gravity oil daily.

Lost Hills

In the Lost Hills field of Kern County, Associated Oil Co. has filed an abandonment notice on No. 1 Williamson, a deep test drilled in the extreme western end of the field. Associated has decided to prosecute additional work and preparations are under way to drill a new well on the Elliott property in section 11-26-20. Standard Oil Co., which recently abandoned a deep test on the United property in section 2-26-20, has just spudded in No. 2 United and this well will be carried on down as a deep conclusive test. This deep drilling is based on the belief that production might be anticipated between the Lost Hills and Kettleman South dome fields.

Mount Poso

In the Mount Poso field of Kern County, Ring Oil Co. has completed No. 1 Knapp in section 28-26-28, pumping 101 bbls. of clean 16.5 gravity oil per day from 1,522 feet. Petroleum Securities is bailing No. 2 Murdock and the well should accordingly be on production within the next few days.

In the Midway-Sunset field Honolulu Oil Corp. has completed No. 6 in section 14-32-23, and is bailing No. 16 in the same section. No. 6 was completed pumping 288 bbls. of 21.8 gravity oil per day from 3,510 feet. This well was originally carried down to 3,570 feet but was plugged back to the completion depth because of a gray sand that appeared to carry water. The hole was finished with a 6⅝-inch liner carrying 43 feet of perforated. Honolulu Oil Corp. No. 16, which is scheduled for completion within the next 48 hours, was bottomed at 3,426 feet and finished with a 4¾-inch liner carrying 56 feet of perforated. Considerable new drilling is being undertaken in the Midway-Sunset field and due to the large amount of undeveloped acreage and possibility of extending the proven limits of production it is logical to assume that this field will continue to be quite active during the next several months. Union Oil Co., which recently completed three new wells in this field, has just spudded in two additional projects and both, No. 4 Keene and No. 3 Williams, should be tanking oil within the next three weeks as production is secured at a relatively shallow depth and the formation is such that rapid footage is possible. North American Oil Co. No. 4 in section 2-32-24 proved to be a commercial producer upon being given a production test early this week as it tanked 112 bbls. of 22.3 gravity oil during the first initial 24-hour test. This new well was finished at 4,057 feet and was brought in on the beam.

Huntington Beach

Operators in the Huntington Beach field of Los Angeles Basin have just closed a busy week during which three new wells and one recompletion were finished. The recompletion was Lafayette Oil Co. No. 7 Kirk which was returned to production pumping 70 bbls. of 24.5 gravity oil per day from 4,595 feet after the hole had been redrilled from 3,380 feet to bottom. Vicaroo Oil Co. completed an excellent new well when No. 1-A S. and G. was brought in on a compressor doing 595 bbls. or relatively clean 25.1 gravity oil daily from 5,171 feet. South Basin Oil Co. No. 93 Huntington was brought in under a natural flow doing 370 bbls. of clean 25.3 gravity oil per day from 3,990 feet. Re-Mine Oil Co. No. 1 Humble proved somewhat of a disappointment upon completion as it was only good for 20 bbls. of 21.1 gravity oil cutting 46 per cent from 3,737 feet.

Three new wells were finished in the Torrance field of Los Angeles Basin but only one of this trio proved satisfactory. This was the Dumas-Lew ; Oil Co. No. 3 Redondo which was brought in pumping 265 bbls. of 18.4 gravity oil per day from 3,638 feet after the hole had been finished with a 7-inch liner including 375 feet of perforated. The O. S. Oil Co. has listed its No. 1 Redondo for completion but some further work may later be undertaken as the well was only good for 36 bbls. of 17.8 gravity oil cutting 50 per cent from 3,708 feet. South Western Petroleum Corp. No. 1 registered an initial daily production of 41 bbls. of 18.4 gravity oil per day from 3,605 feet. In the Brea Olinda field Shell No. 19 Orange was finished pumping 50 bbls. of oil and 21 bbls. of water from 4,723 feet and in the Montebello field Standard No. 90 Baldwin was brought in pumping 48 bbls. of crude oil and 16 bbls. of water daily from 3,100 feet.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Dec. 12.—Crude production from all Alberta fields in October totaled 120,638 bbls. compared with 120,210 bbls. in September.

On the west side of the South Turner Valley, Foundation Royalties No. 1, LSD 5, section 21-18-2w5, bottoming in the lime at 6,456 feet, is not yet completed, but is gradually clearing itself by heads. Operations are handicapped by the 8-inch casing and the relatively small volume of gas. The well will likely be tubed to obtain the maximum of production. Early estimates on per day production varied from 500 to 3,500 bbls. with 1,800 bbls. a favorite figure, but it will assuredly exceed 500 bbls. a day and may run over 1,000 bbls. The crude tests 49.5 gravity, nearly 3 degrees higher than Turner Valley Royalties No. 1. It is being blown for from 30 to 40 minutes at three- to four-hour intervals and shows a gradual increase in both crude and gas as it is cleared of rotary fluid. Proceeds of the well go entirely to shareholders of Foundation Petroleums, Ltd., subject to 12 per cent gross royalty to Calgary & Edmonton Corp., Ltd., and 1 per cent to individual royalty holders.

Drilling was discontinued on Friday, November 13, after going 438 feet in the lime to 6,456 feet depth. It finished on top of the black lime. Fishing for a lost bailer delayed the production test two weeks; eventually the top and bottom of the bailer were drilled out and the hole partly cleared of rotary fluid when it blew in.

In addition to extending the producing area a considerable distance to the south and west, the Foundation well is regarded as proving the crude zone for a distance of 1⅝ miles south of Turner Valley Royalties No. 1. How far the producing field will extend west and south is uncertain. West Side Royalties No. 1, the southernmost drilling test, is a quarter mile south and a little east of Foundation No. 1. Four or five wells are now drilling or spotted between the latter and Turner Valley Royalties No. 1.

Sterling Pacific Testing

A mile north of Turner Valley Royalties No. 1 Sterling Pacific No. 3, LSD 13, section 33-18-2w5, bottoming 558 feet in the lime at 6,788-foot depth, is bailing and testing production. The test is being handled by the Royalite Oil Co., which absorbed the Sterling Pacific Oil Co. some years ago. Persistent bailing was required to lower the fluid below 3,200 feet, which, with the absence of any pronounced gas flow, was regarded as indicating a crude producer. Sterling Pacific No. 4, LSD 4, same section, offsetting Turner Valley Royalties No. 1 to the north, is below 5,109 feet.

Naphtha Producers

In the southeast corner of section 21-18-2w5, Highwood-Sarcee Oils No. 2, LSD 1, after treatment with 10,000

(Continued on Page 87)

Rocky Mountain Area

By
T. R. INGRAM

EXTEND STUART SAND POOL, LEA AREA, WITH GOOD WELL

DENVER, Colo., Dec. 14.—New Mexico's allowable outlet was increased 2,700 bbls. daily beginning December 1.

The old Boulder field in Colorado is attracting some attention from a major operator. The Rocky Mountain Gas Co. has contracted with the Continental Oil Co. for gas from the Thornburg dome and will market it in Craig.

In Wyoming the Stock Oil Co.'s burning gasser on the Garland dome gives indications of turning to oil. The Empire State wildcat in Hot Springs County was abandoned. Two new operations were reported in Lincoln County. The Argo Oil Co. No. 8 Elliott, in Lance Creek, made 60 bbls. in one hour on a drill stem test. Two failures in Washakie County about limited the productive area in the Hidden Dome field. One oil well was completed in that field and two new operations are getting under way.

Seasonal reduction of runs is being made in the Cut Bank field in Montana. Drilling operations are down to 14 wells with only one completion and one new location this week. One small gas well was completed in Phillips County and two new operations, but no completions were reported in Kevin-Sunburst.

One gas well was completed in the Cisco field and a small oil well in the Virgin field in Utah.

NEW MEXICO

Another large natural producer in the northwest extension of the Stuart sand pool was completed at Shell Petroleum Corp. No. 1 J. F. Black, C NW SE section 21-24-37, Lea County. It flowed 1,020 bbls. of oil naturally in 24 hours from sand pay at 3,443-3,501 feet, total depth. Gas gauged 1,120,000 feet. It offsets Plains Production Co. No. 1 Knight, which recently proved the northwest extension, to the west.

The largest New Mexico well of the week was Continental Oil Co. No. 5-D-15 State, C SW NE section 15-21-36, Eunice field. It flowed 1,536 bbls. of oil naturally through three-fourths inch choke on tubing in 24 hours, with 1,710,000 feet of gas. It logged first oil at 3,730 feet and was bottomed at 3,880 feet.

Other Eunice completions were: Continental Oil Co. No. 6-D-15 State, C NE SE section 15-21-36, had pay at 3,766-3,865 feet, total depth, and flowed 1,440 bbls. of oil naturally in 24 hours through three-fourths inch choke on tubing. Same operator's No. 5-B-14 Lockhart, C NW SW section 14-21-36, flowed 264 bbls. of oil naturally through 15/64-inch tubing choke in 24 hours from pay at 3,780-3,877 feet, total depth. Gulf Oil Corp. No. 6 Orcutt, C SW NE section 6-21-36, was bottomed in lime at 3,873 feet, was acidized with 2,000 gallons and flowed 216 bbls. of oil through tubing in 24 hours. Top of pay was 3,770 feet. Repollo Oil Co. No. 1-193 State, section 30-20-37, was acidized with 3,000 gallons and flowed 480 bbls. of oil in 24 hours through three-fourths inch tubing choke. It logged pay at 3,789-99 feet and 3,817-33 feet; total depth, 3,857 feet in lime.

In the Monument area, Atlantic Refining Co. completed No. 1 Crutchfield, C NE SE section 32-19-37, at 3,914 feet, total depth, in pay topped at 3,862 feet. After treatment with 3,000 gallons of acid, it flowed 301 bbls. of oil in 24 hours. Continental Oil Co. No. 1 State "A," C SW SW section 26-19-36, had pay at 3,880-3,985 feet, total depth, and flowed 77 bbls. of oil through three-fourths inch choke on tubing in 24 hours.

The allowable outlet for New Mexico for the first half of December, as established by the State Oil Conservation Commission, was increased on December 1 from 83,500 to 86,200 bbls. daily, a gain of 2,700 bbls. daily. The increased allowable is distributed among the Lea County pools. Top allowable for non-marginal Lea County wells, exclusive of Hobbs and Monument, is 100 bbls. per well per day as against 97 bbls. for the last half of November. Monument's total outlet remains at 12,000 bbls. daily from 242 units, of which 5 are marginal wells and 23 are new wells. The marginal wells are allowed a total of 105 bbls. daily and the new wells a top of 50 bbls. daily. The non-marginal wells are allowed a top of 40 bbls., plus the bottom-hole pressure allocation. Hobbs has 244 units on production, of which 4 are given special allowances.

Allocation to Lea County marginal units, less the Monument field, for the first half of December are as follows:

	Units	Alloc.
Cooper	21	820
Eunice	36	1,486
Hobbs	4	97
Jal	39	1,351
Lea	2	81
North Lea	2	59
Total	104	3,894

Total allocation for Lea County pools, including marginal and non-marginal wells, is as follows:

	Units	Alloc.
Cooper	98	8,520
Eunice	343	32,186
Jal	64	3,851
Lea	11	981
North Lea	2	59
Hobbs	244	24,293
Vacuum	1	100
Monument	242	12,000
Total	1,005	81,990

Allocations to pools outside of Lea County are as follows:

	Bbls.
Artesia	3,065
Getty	100
Hogback	200
Rattlesnake	750
Table Mesa	85
Aztec-Bloomfield	10
Total	4,210

Monument Area

Gulf Oil Corp. No. 2 Kutter-State "B," C SW NW sec. 28-19-37. T.D. 3,946 ft.; failed to flow after acidizing; reacidized with 5,000 gallons; flowed 20 bbls. oil in 5 hrs.

Skelly Oil Co. No. 2 State "F," C SW SE sec. 17-20-37. Cellar and pits.

Phillips Pet. Co. and Anderson-Prichard Oil Corp. No. 1 Hobbs, C NE SW sec. 18-20-37. T.D. 3,861 ft.; to deepen.

Gulf Oil Corp. No. 2 Love, C SE SE sec. 32-19-37. T.D. 3,898 ft.; reacidized; flowed 78 bbls.; testing.

Amerada Pet. Corp. No. 1 Adkins, C SW SW sec. 5-20-37. T.D. 3,860 ft.; to set 5½-in. csg.

Continental Oil Co. No. 5-A-3 Reed, SE SW NE sec. 3-20-36. T.D. 3,925 ft.; testing.

Continental Oil Co. No. 1 Britt "A," C NE NW sec. 18-20-37. Flowed 96 bbls. in 17 hrs.; to deepen.

Continental Oil Co. No. 1 Sanderson "A," C E half NE NE sec. 10-20-36. Drlg. 3,450 ft.

Continental Oil Co. No. 2 Sanderson "A," C N half NW SE sec. 11-20-36. Drlg. 2,335 ft.

Amerada Pet. Corp. No. 7 State "T," C NW SW sec. 28-19-37. Drlg. 2,975 ft.

Amerada Pet. Corp. No. 5 Andrews, C SW NW sec. 12-20-36. Drlg. 3,736 ft.

Stanolind O. & G. Co. No. 1 Gillully, C SW SW sec. 8-20-37. Drlg. 2,335 ft.

Amerada Pet. Corp. No. 6 State "T," C NW NE sec. 20-19-37. Drlg. 3,698 ft.

Empire O. & R. Co. No. 3 Laughlin, C SE SE sec. 5-20-37. Drlg. 3,580 ft.

Ohio Oil Co. No. 6 Barber, C NW SW sec. 6-20-37. T.D. 3,081 ft.; W.O.C.

Anderson-Prichard Oil Corp. No. 5 Britt, C NE SW sec. 7-20-37. Drlg. 3,699 ft.

Anderson-Prichard Oil Corp. No. 6 Britt, C SE SW sec. 7-20-37. Drlg. 2,525 ft.

Gulf Oil Corp. No. 1 Graham-State "G," C SW SE sec. 17-19-37. Drlg. 3,814 ft.

Gulf Oil Corp. No. 3 Williams, C SE SE sec. 29-19-37. T.D. 3,942 ft.; testing.

Ohio Oil Co. No. 7 Barber, C SW NW sec. 5-20-37. Drlg. 3,228 ft.

Anderson-Prichard Oil Corp. No. 1 Britt "B," C SE SW sec. 5-20-37. T.D. 2,438 ft.; set 9⅝-in. csg.

Continental Oil Co. No. 1 Britt "B," C NE NW sec. 8-20-37. T.D. 260 ft.; set 10¾-in. csg.

Ennisbrook Oil Corp No. 1 Wulff, NW cor. sec. 17-20-37. T.D. 2,390 ft.; set 9⅝-in. csg.

Phillips Pet. Corp. No. 1 Patsy, C NW NE sec. 18-20-37. Rig.

Humble O. & R. Co. No. 1 State "E," C NW SW sec. 21-19-37. Drlg. 3,229 ft.

Gulf Oil Corp. No. 1 Hatchett, C NW SW sec. 33-19-37. Drlg. 851 ft.

Skelly Oil Co. No. 1 Van Etten, C NW SW sec. 9-20-37. Drlg. 2,390 ft.

Texas Co. No. 4 Cooper, C SE NE sec. 5-20-37. Drlg. 1,700 ft.

Amerada Pet. Corp. No. 3 State "T," C SE NW sec. 25-19-36. T.D. 2,555 ft.; set 8⅝-in. csg.

Humble O. & R. Co. No. 2 Laughlin, C SW SW sec. 4-20-37. Cellar and pits.

Gulf Oil Corp No. 2 Kutter "A," C NW SE sec. 20-19-37. Location.

Amerada Pet. Corp. No. 1 Larsen, C SE NW sec. 32-19-37. Location.

Stanolind O. & G. Co. No. 2 Gillully, C NW NE sec. 21-20-37. Location.

Eunice Area

Shell Pet. Corp. No. 2 State "A," NE cor. sec. 12-21-25. T.D. 3,891 ft.; tstg.

Gulf Oil Corp. No. 1 L. White, C SE SE sec. 25-20-36. T.D. 3,845 ft.; to reacidize.

Gulf Oil Corp. No. 2 Bell-State "D," C SW SW sec. 6-21-36. T.D. 3,787 ft.; set 5½-in. csg.

Empire O. & R. Co. No. 2 State "F," C NE SE sec. 30-20-37. T.D. 3,835 ft.; flowed 375 bbls. oil; acidized.

Gulf Oil Corp. No. 4 Orcutt "C," C SE NW sec. 6-21-36. Drlg. 961 ft.

Gulf Oil Corp. No. 3 Orcutt "C," C SW NE sec. 6-21-36. Drlg. 3,706 ft.

Amerada Pet. Corp. No. 4 Houston, C SW NE sec. 7-21-36. T.D. 2,717 ft.; set 8⅝-in. csg.

Atlantic Ref. Co. No. 4 State "L," C NW SW sec. 6-21-36. Drlg. 3,775 ft.

Humble O. & R. Co. No. 7 Knox, C SW NE sec. 10-21-36. T.D. 3,890 ft.; to reacidize.

Gulf Oil Corp. No. 5 Orcutt "C," C SE SE sec. 36-20-36. Drlg. 2,200 ft.

Humble O. & R. Co. No. 7 State-Aggies, C NW NE sec. 31-20-37. Drlg. 3,110 ft.

Getty Oil Corp. No. 1 State "D," C SE NE sec. 32-20-37. T.D. 3,675 ft.; to test.

Skelly Oil Co. No. 1 State "G," C NW SE sec. 30-20-37. Drlg. 1,770 ft.

Shell Pet. Corp. No. 2 State "J," C SW SE sec. 32-20-37. Drlg. 2,610 ft.

Continental Oil Co. No. 17-B-4 Meyer, C NE NE sec. 4-21-36. T.D. 1,296 ft.; set 7⅝-in. csg.

Shell Pet. Corp. No. 2 State "G," C NW NW sec. 6-21-36. Drlg. 1,616 ft.

Gulf Oil Corp. No. 2 Molly Campbell, C NE SW sec. 7-21-36. T.D. 1,363 ft.; set 7⅝-in. csg.

Two States & Southern Pet. Ex. No. 1 McQuatters, C NW SE sec. 11-21-36. Cellar and pits.

Two States & Southern Pet. Ex. No. 2 McQuatters, C SE NE sec. 11-21-36. R.U.R.

Humble O. & R. Co. No. 8 Knox, C NE NE sec. 10-21-36. Cellar and pits.

Gulf Oil Corp. No. 1 J. H. Daly, NE NE SW sec. 6-22-36. Spudded.

Shell Pet. Corp. No. 2 State "K," C SE NE sec. 36-20-36. Spudded.

Atlantic Ref. Co. No. 1 State "M," C NE SE sec. 36-20-36. Cellar and pits.

Gulf Oil Corp. No. 2 Sunshine, C SE SW sec. 30-20-37. Bldg. rig.

Empire O. & R. Co. No. 3 State "F," C SE SE sec. 30-20-37. Cellar and pits.

Sun Oil Co. No. 5 Adkins, C SE SE sec. 3-21-36. Loc.

Texas Pacific Coal & Oil Co. No. 3 State "A," Acct. 2, C SW NE sec. 8-22-36. Bldg. rig.

Sims Area

Devonian Oil Co. No. 1 Christmas, NE NE SE sec. 28-22-37. T.D. 2,650 ft.; S.D. for repairs.

Skelly Oil Co. No. 1 R. R. Simms "C," C SE SW sec. 3-23-37. Drlg. 2,860 ft.

Skelly Oil Co. No. 1 H. O. Simms "D," C SE NW sec. 3-23-37. T.D. 3,397 ft.; set 7-in. csg.

Skelly Oil Co. No. 1 W. P. Simms "B," C NW NE sec. 10-23-27. Drlg. 3,130 ft.

Empire O. & R. Co. No. 1 Walden, C SE NW sec. 21-22-37. Drlg. 3,423 ft.

Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,305 ft.; waiting on tools.

W. H. Street et al No. 1 Wood, C W½ SE NE NE sec. 22-22-37. Drlg. 1,150 ft.

Amon G. Carter No. 1 E. M. Elliott, sec. 22-22-37. Drlg. 2,200 ft.

J. E. Farrell No. 1 Walden "C," sec. 15-22-37. T.D. 3,410 ft.; set 7-in. csg.

J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. Drlg. 2,836 ft.

Skelly Oil Co. No. 1 G. W. Sims, sec. 10-23-37. T.D. 3,607 ft.; fishing.

Skelly Oil Co. No. 2 R. R. Simms, C NE SW sec. 3-23-37. T.D. 1,196 ft.; W.O.C.

Skelly Oil Co. No. 3 Baker, C NE NW sec. 27-22-37. Drlg. 1,612 ft.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. T.D. 3,514 ft.; S.D. for orders.

Yingling Oil Co. No. 1-B-3 Vaughan, C SE NW sec. 3-24-36. Moving in material.

Yingling Oil Co. No. 1-B-9 Vaughan, NE cor. sec. 9-24-36. Moving in material.
Shell Pet. Corp. No. 1 Guthrie, C SW SE sec. 34-23-36. R.U.R.

Lea County—Miscellaneous

Continental Oil Co. No. 1 J. C. Farney "A," C SW SE sec. 5-23-36. Wildcat; drlg. 3,578 ft.
Plains Prod. Co. No. 3 J. A. E. Knight, C SE SE sec. 21-24-37. Drlg. 3,155 ft.
Plains Prod. Co. No. 4 Knight, C SW SW sec. 22-24-37. Cellar and pits.
Eppenauer Drlg. Co. No. 1 Stuart, NE NW NE sec. 22-25-37. T.D. 1,230 ft.; set 8¼-in. csg.
Rowan et al No. 1 Mattern, C SW SE sec. 8-22-37. T.D. 3,789 ft.; swabbing and testing.
C. & G. Oil Co. No. 1 E. Weir, C NE NE sec. 14-20-37. T.D. 4,975 ft.; S.D.O.
Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. T.D. 2,526 ft.; S.D.
Argo Royalty Co. No. 1 Lanehart, SW SE NE sec. 21-26-37. T.D. 3,782 ft.; P.B. to 3,572 ft.; W.O.C.
Stanolind O. & G. Co. No. 1 Langley, sec. 15-25-37. T.D. 3,413 ft.; P.B. to 3,409 ft; testing.
Leonard No. 3 Lanehart, C NE NW sec. 21-25-37. Moving in material.
C. L. Carlock et al No. 1 Quincy-Ricker, C SE SE sec. 7-16-36. Wildcat; drlg. 3,085 ft.
J. C. Clower No. 1 Turner, C SE SE sec. 29-21-37. T.D. 3,485 ft.; drlg. on whipstock.
Culberson-Irwin & Stovall No. 2 Stuart, NW SE SE sec. 10-25-37. T.D. 3,277 ft.; fishing.
Samedan Oil Co. No. 2 Hughes, C NW SE sec. 4-23-37. Drlg. 2,031 ft.
Continental Oil Co. No. 1-A-24 Sholes, C SE SE sec. 24-25-36. T.D. 3,396 ft.; P.B. 3,115 ft.; W.O.C.
Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; T.D. 3,160 ft.; fishing.
Baldridge and others No. 1 Blakely, C NW NE sec. 5-20-38. Wildcat; T.D. 2,815 ft.; standardizing.
Rushwold Oil Co. No. 1 Carter, C NW NE sec. 30-20-39. Wildcat; drlg. 1,730 ft.
Texas Co. No. 2 Sheppard "A," C SW NW sec. 6-26-37. T.D. 3,150 ft.; P.B. to 3,077 ft.; W.O.C.
Maxwell, Crandall & Osmond No. 1 Lane-State, C SW NW sec. 32-10-34. Wildcat; drlg. 3,250 ft.
Maljamar O. & G. Co. No. 7 Baish, C SE NW sec. 21-17-32. Drlg. 2,330 ft.
Continental Oil Co. No. 1 Rex William "A," C SW SW sec. 27-23-35. Wildcat; drlg. 2,730 ft.
Texas Co. No. 1 Young, SE cor. sec. 5-24-37. T.D. 3,647 ft.; flowed 84 bbls. in 24 hrs.; testing.
Texas Co. No. 1 Black, C SW NW sec. 21-24-37. Drlg. 3,055 ft.
Magnolia Pet. Co. No. 3 Carson, C SW SW sec. 28-21-37. T.D. 3,466 ft.; S.D. for repairs.
Continental Oil Co. No. 1 Eaves "B," C SW NE sec. 30-36-37. T.D. 3,093 ft.; Set 7-in. csg.
Tide Water Oil Co. No. 1 Coates "B," C NW NW sec. 21-25-37. Drlg. 3,060 ft.
Amon G. Carter No. 2 Elliott, C NE NW sec. 22-22-37. T.D. 1,175 ft.; R.U.S.T.
Magnolia Pet. Co. No. 1 State "G," NW NW NE sec. 24-17-34. Drlg. 2,500 ft.
Empire O. & R. Co. and Repollo Oil Co. No. 1 Brunson, NW NW SE sec. 4-22-37. Drlg. 1,510 ft.
Anderson-Prichard Oil Corp. No. 2 Carlson, C SW NW sec. 21-25-37. T.D. 1,266 ft.; S.D. for repairs.
Shell Pet. Corp. No. 1 State "T," C SE NE sec. 34-20-35. Wildcat; drlg. 682 ft.
Getty Oil Co. No. 2 Hardy, C SW SE sec. 20-21-37. Drlg. 2,360 ft.
Texas Co. No. 1 V. M. Henderson, SE SE NE sec. 30-21-37. Drlg. 673 ft.
Getty Oil Co. No. 1 Etz, C NE NE sec. 12-21-32. Wildcat; drlg 682 ft.
Culbertson-Irwin & Stovall No. 3 Stuart, NE SE SW sec. 10-25-37. Cellar, pits.

Chaves County

Elliott and others No. 1 State, sec. 16-8-23. Loc.

Eddy County

Clint Murchison et al No. 1 State "A," C NE SW sec. 16-17-31. Drlg. 2,460 ft.
Barnsdall Oil Co. No. 4 Dodd, C SE SE sec. 22-17-29. Drlg. 2,719 ft.
Fred Brainard No. 1 Berry, C E½ NW NW sec. 23-17-27. Drlg. 1,660 ft.
Tignor-Etz & Keys No. 5 Keys "A," C E½ SW SW sec. 10-17-28. Drlg. 1,470 ft.
Etz Bros. No. 3 State, sec. 16-17-30. T.D. 3,252 ft.; testing.
Hammond et al No. 1 State, SW SE SW sec. 15-27-28. T.D. 1,967 ft.; to shoot.
Republic Prod. Co. No. 6 Russell, SW NE NW sec. 18-17-31. T.D. 3,535 ft.; pumped 20 bbls. in 24 hrs.
McGinley & Harwell No. 7 Mann, SW cor. sec. 4-18-27. Loc.
Premier Pet. Co. No. 1 McIntyre "G," NW NW NE sec. 21-17-30. T.D. 2,617 ft.; set 6⅝-in. csg.
Flynn, Welch & Yates No. 75 State, C E½ SE SE sec. 10-19-28. Drlg. 675 ft.
Flynn, Welch & Yates No. 3 Gissler, SW SE SW sec. 14-17-30. Drlg. 874 ft.
Flint Prod. Co. No. 1 Flint, SE SW SE sec. 14-17-30. Drlg. 760 ft.

Harding County

Kahay No. 1 Dae Daca, C sec. 19-20n-31e. T.D. 1,702 ft.; S.D.
Clyde B. Neill No. 1 Foster, C NW SW sec. 27-21-30. S.D. 700 ft.

De Baca County

Mid-Continent Engineering Corp. No. 1 State, C NW SE sec. 27-4n-22e. T.D. 1,051 ft. in broken lime; S.D.

Roosevelt County

Maxwell, Crandall & Osmond No. 1 Williamson, C NW NW sec. 7-8s-36e. Wildcat; drlg. 3,040 ft.
Claudel Development Co. No. 2 Wilmes, C SE NE sec. 17-2s-30e. Wildcat; T.D. 825 ft.; fishing.
Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. Drlg. 3,230 ft.

Union County

Superior Oil Corp. and Olson Drlg. Co. No. 1 J. H. Zurich, SE SW sec. 2-21-34e. T.D. 2,925 ft.; in granite; S.D.

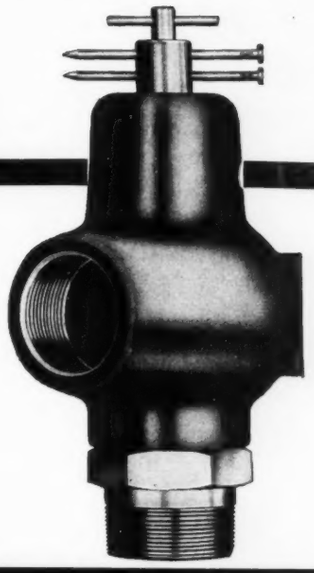
COLORADO

Archuleta County

Cortez Oil Co. No. 1-A Crowley, 600 ft. N of S line and 200 ft. E of W line, NE NE sec. 2-32n-2e. S.D. 100 ft.
Maryott Drlg. Co. No. 1 Hollywood, SE SE SE sec. 15-34n-1w. S.D. 625 ft.
Oil City Pet. Co. No. 1-A Garrott, SW NE NW sec. 25-32n-2e. S.D. after P.B. from 1,515 ft. to O.S. at 970 ft.

2-NAIL *SHEAR-RELIEF* VALVE

- WIDER PRESSURE RANGE
- GREATER THRU-FLOW CAPACITY



The 2-nail SHEAR-RELIEF Valve, which is built in 3-inch size for the largest slush pumps and for service where exceptional thru-flow capacity is required, serves two ranges of pressure, as outlined below:

AVAILABLE PRESSURE SETTINGS
pounds per square inch

Using One Nail	*Using Two Nails*
500	1000
600	1250
700	1450
800	1600
1000	2000
1250	2500

FLUID-PISTON SLUSH PUMPS
ABERCROMBIE PUMP CO.
GULF BLDG. HOUSTON TEX.

MATHEY PORTA-REEL UNIT

For Measuring Depth of Well.
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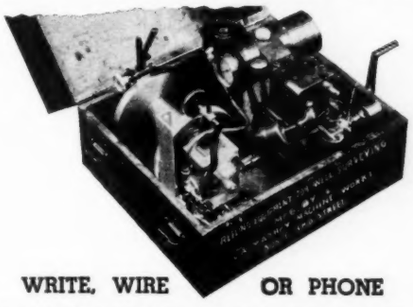
To Locate Any Obstruction
•
Reel Capacity 12,000 feet.



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FOR OVER A QUARTER CENTURY "SEEP" AND "STAR" HAVE IDENTIFIED THE TWO FINEST LEATHER VALVE AND PUMP CUPS THAT MONEY CAN BUY. YOUR SUPPLY STORE HAS THEM. MANUFACTURED SOLELY BY

C. L. & W. W. AUER, CORRY, PA.

STAR

MERRY, MERRY MEN OF POWER!

Life can be what we make it—and so can a power plant.

Scale and corrosion, shutdowns, tube replacements and costly operation shouldn't be part of a boiler's life any more than worry, disease and poverty should be part of ours.

Life can be happy and full of joys and boilers and engines can be kept merrily humming a tune of efficiency with . . .

SAND BANUM

"The Entirely Different Boiler and Engine Treatment"

Throughout the year Sand-Banum has made power plant men merry with its incomparable Simplicity, Surety and Safety—and it can do the same for all.

Let us prove to you Sand-Banum's value in making your power plant a better place in which to work.

AMERICAN SAND-BANUM COMPANY, Inc.
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Houston, Tex. . . . . Denver, Colo. . . . . Fresno, Calif.
and at other convenient points

Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Reeder, Lot 50 (SW SE SW) sec. 24-33n-2e. Landed 6¼-in. at 1,185 ft.; installing calf wheel.
H. L. Hendrick No. 1 Crowley (unsurveyed), sec. 2-32-1. S.D. 1,167 ft.
Sharp et al No. 1 Walcott, C S½ SE sec. 34-33n-2e. S.D. 250 ft.

Adams County

Oklahoma Oil Co. No. 1 Baxter, C SW sec. 2-3s-66. S.D. 4,368 ft. for 4-in. D.P.
Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64w. S.D. 4,267 ft.

Boulder County

A seismograph crew representing the Amerada Petroleum Corp. is reported to have moved into Boulder to make a survey of the old Boulder field and surrounding area. It is composed of 20 men and is expected to remain some time in that district. There is a large block of leases south of the old wells which was organized into a unit several months ago.

The Boulder Producing & Development Co. No. 2 Maxwell, NW NW NE section 24-1n-71, west of the old field, is temporarily abandoned at 2,427 feet and rig moved to the Repollo well east of the city to clean out. Before resuming in No. 2 Maxwell, rig will be used to drill several shallow holes near the company's No. 1 Maxwell, a pumper at 1,160 feet.

Baker et al No. 3 McKenzie, NW NE NW sec. 21-1n-70w. Drlg. 2,250 ft.

Huerfano County

S. W. Pressey No. 1 Ojo, SW NE sec. 10-29s-69. O.W.D.D.; drlg. 3,150 ft.; S.G.: object Dakota at 3,900 ft.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal Co., NW NW sec. 18-9n-78w. S.D. 2,700 ft.

Kiowa County

Gulf Oil Corp. No. 1 Riser-Union Pacific, C SW NE sec. 1-17s-50w. Drlg. 3,265 ft.

LaPlata County

Detroit Oil Association No. 1, NW SW sec. 9-35n-12w. T.D. 3,397 ft.; fsg.
McGarr Pet. Co. No. 1 Pinon Mesa Land Co., CSL NE NE sec. 34-33n-12w. Cmtd. 6¼-in. at 9,450 ft.; D.D. to 3,680 ft.; S.D.

Larimer County

Continental Oil Co. No. 8 Buckeye-U.P., C NE SW sec. 1-10s-68. T.D. 4,992 ft.; P.B. to Muddy at 4,260-91 ft.; tearing down rig; installing pump to test.

Las Animas County

Garcia Corp. No. 1 McClung, NE NW SE sec. 19-33s-61. Drlg. 930 ft.

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE SW sec. 7-17-62. T.D. 2,096 ft.; drlg. up baller.

Moffat County

The Mountain Fuel Supply Co. has not announced any plans for marketing the oil from its discovery on the Powder Wash structure in its No. 1 Carl Allen, section 32-12n-97, which made 47½ bbls. an hour from the lower Wasatch at 5,032 feet, but is reported making investigations looking to the installation of a dewaxing plant. The most feasible outlet for the crude will be north to the Union Pacific Railroad, about 50 miles by air line, when sufficient production is developed to warrant the undertaking. Its No. 1 Stewart, half a mile to the west, will go to the gas sand in the upper Wasatch at 2,200 feet.

The Rocky Mountain Gas Co., subsidiary of the Ohio Oil Co., has made a contract with the Continental Oil Co. for the purchase of gas from latter's No. 1 Wymore, SW cor. NW section 16-3n-91, on the Thornburg dome, which was completed in 1925 for 30,000,000 feet in the Dakota at 2,127 feet. A 21-mile 3-inch welded line will be laid from the field to Craig to augment the present supply of gas for domestic purposes. The Craig supply at present is coming from the Craig dome, immediately west of the town, but lately reports of the well showing water have been current. About a year ago the Ohio Oil Co. made a location for a gas well to be drilled on the Bell Rock structure, but spudding was postponed. Before completing the deal for the sale of gas from the Thornburg dome, the Continental company deepened one of the old wells to the Sundance to test that horizon for oil, but encountered water.

Mountain Fuel Supply Co. No. 1 Stewart, C SW SW sec. 32-12n-97w. R.U.
Mountain Fuel Supply Co. No. 1 Kuykendall, NE NE SE sec. 22-12n-100. T.D. 2,790 ft.; P.B. to 2,537 ft.

Morgan County

Swisher et al No. 1 Lunt, 92 ft. W of E line and 360 ft. N of S line, sec. 3-4n-60. T.D. 1,718 ft.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE sec. 21-26n-17w. S.D. 3,960 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. Drlg. 2,980 ft.; 10¾-in. at 2,970 ft.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. Drlg. 5,450 ft.; 4¾-in. at 5,440 ft.

Pueblo County

Phillips Pet. Co. No. 1 Andover-Century, NE SW NW sec. 26-18s-65. Cg. sh. 1,542 ft.

Routt County

Mid-Colo Pet. Co. No. 1 Omoholt, NE SE SE sec. 29-4n-87w. S.D. 2,910 ft.; renewing leases before drlg. into Sundance.

Weld County

Continental Oil Co. No. 2 Briggs, C NE SW sec. 13-6n-61. T.D. 7,021 ft. in dry sd.; top sd. 7,018 ft.; rmg.

WYOMING

Albany County

California Co. No. 5 Holst, SE NE SE sec. 13-17n-77. Drlg. 2,155 ft.
Hal Blakeman No. 1 Chapple, C NE NW sec. 31-21-76. Drlg. 1,660 ft.
California Co. No. 1 Bath, NW NW SW sec. 4-16n-75. Drlg. 3,610 ft.
California Co. No. 6 Holst, NW NE SE sec. 13-17n-77. W.O.R.

Big Horn County

The Stock Oil Co. No. 1 Allen, on the Garland dome, which has been running wild since last January and is now on fire for the second time, is making considerable black smoke which is interpreted as meaning that the well is pulling oil up from the flanks of the structure. The gas is in the Embar and Tensleep, and Garland is the only field in the basin which has a gas cap above the oil in these horizons. The well was estimated at 60,000,000 feet a day when it first blew out and afterwards was estimated to have increased to 100,000,000 feet. There has been no recent estimate of the volume. This company's No. 1-B Allen, 190 feet west of the burning gasser, a directional well, is drilling in the Embar at 3,317 feet and has not yet lost circulation, indicating that it has not yet reached the hole from which the gas is coming.

Stock Oil Co. No. 1 Allen, Lot 52, sec. 32-46n-97. T.D. 3,825 ft.; on fire.
Stock Oil Co. No. 1-B Allen, Lot 52, sec. 32-46n-97. Drlg. 3,317 ft. in Embar.
Ohio Oil Co. No. 1 Wiley, C NE NW sec. 25-56n-97. Cg. 5,210 ft. in top Tensleep.
Ohio Oil Co. No. 2 Smith, CWL NE SE sec. 32-56-97. T.D. 4,191 ft.; rng. csg.; top Madison 3,792 ft.; top saturation 4,037 ft.
Ohio Oil Co. No. 1 State, NE cor. Lot 38, sec. 36-46n-97. Drlg. sh. 2,387 ft.
Taylor Oil Co. No. 1 Robinson, SW SW NW sec. 34-56n-97. S.D. 2,860 ft.; (cor.).
Peay Oil Co. No. 1 Denjo Hr., 42-C, sec. 15-55n-87w. T.D. 3,998 ft.; pulling csg. at 3,930 ft.
Stock Oil Co. No. 1 Griffin, Lot 60, sec. 4-55n-97. T.D. 4,200 ft.; set 5 3/16-in. at 3,854 ft. to produce from the Amsden and Madison.
Peter Evanoff et al No. 1 McAllister, NW NE SE sec. 9-55n-87. S.D. 3,015 ft.; will run 8⅝-in. and go to Madison.
J. W. Bales No. 1 Parker, C SW SW sec. 23-49n-89w. Resumed; drlg. 950 ft.

Carbon County

Ohio Oil Co. No. 7 H.&C., C NW sec. 2-19-78. Drlg. 3,081 ft.
Medicine Bow Oil Co. No. 1 Hintze-Govt., C NE SE sec. 18-22n-78. Drlg. 1,815 ft. in Morrison.
General Pet. Corp. No. 1 Union Pacific, SW NW sec. 19-83w. Cg. blk. sh. 5,432 ft.
Sinclair-Wyoming Oil Co. No. 10 Govt., SW SE NW sec. 7-26-89w. Cg. 5,883 ft.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW SW sec. 16-32n-69w. S.D. 3,050 ft.; may install rotary.

Campbell County

G. J. Shearin et al No. 1 Rhodes, NE SE SW sec. 21-49n-74. S.D. 191 ft.

Fremont County

C. E. Nelson No. 2 Enos, SW NE SW sec. 27-3n-1w. Drlg. 580 ft.
Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. Drlg. 2,890 ft.
Sinclair-Wyoming Oil Co. No. 2-C Muskrat, NE SW SW sec. 1-33n-92w. T.D. 7,293 ft.; acidized 2,000 gals.; baller in hole.

Goshen County

Ohio Oil Co. No. 1 Waggoner, C NE NE sec. 14-28-63w. Drlg. 2,800 ft.

Hot Springs County

The Empire State Oil Co. No. 1 Larson, NW SE NW section 33-44n-93, a wildcat on the Zimmerman Butte structure, near Kirby, had water in the Frontier and was plugged and abandoned at a total depth of 2,037 feet. Top of the Frontier was at 1,575 feet.

Laramie County

Amerada Pet. Corp. No. 1 Morton, C SW SW sec. 13-13n-68. T.D. 7,052 ft.; rmd. hole to 7,044 ft.; set 11¾-in. at 7,023 ft. with 2,500 sacks; drlg. cmt. at 6,780 ft.

Lincoln County

H. M. Eilers and others are drilling their No. 3 Government in the Cumberland district. It is one location north of No. 1 Government, which pumped 20 bbls. of 50-gravity crude the first day at 390 feet. It was a discovery in 1934. The second well in the NE NE SW section 32, made 2 bbls. at 385 feet. The operator is planning to build a skimming plant.

H. M. Eilers et al No. 5 Govt., NE SE SW sec. 32-19n-116w. Drlg. 490 ft.; (first report).
Custer Oil Co. No. 1 Govt., SE cor. sec. 9-26n-113w. Spdg. 25 ft.; (first report).
Place Oil Co. No. 1, SE cor. sec. 9-26n-113. Drlg. 280 ft.; 15½-in. at 80 ft.; (note cor. number and loc.).
Senrab Oil Corp. No. 3 Govt., CSL SE NW sec. 10-36n-113w. S.D. 1,020 ft.

Natrona County

Western Producers, Inc., No. 1 Govt., NW SW SE sec. 5-39n-78. S.D. 425 ft.

Niobrara County

The Argo Oil Co. No. 8 Elliott, an offset to production in the Lance Creek field, is a near completion and will make a good well. It is bottomed in saturated sand at 4,071 feet and with tester on top of the sand at 4,061 feet it showed for 60 bbls. an hour through the drill stem.

The Continental Oil Co. No. 2-B Schuricht, near the southern edge, is still working to make a producer. It plugged back to 4,000 feet and swabbed 80 bbls. of water and 10 bbls. of oil through the tubing at 3,998 feet.

Argo Oil Co. No. 8 Elliott, C NW SE sec. 5-35n-65. T.D. 4,071 ft.; tstg.
Bay-Elwell No. 1 Joss, C SE SE NW sec. 1-34n-66w. T.D. 1,604 ft. (cor.); rng. 10-in.
Continental Oil Co. No. 2 Schuricht, SE SW NE sec. 6-35n-65. T.D. 4,068 ft.; P.B. to 4,000 ft.; tstg.
Continental Oil Co. No. 5-A Schuricht, C NW SW sec. 5-35n-65w. Drk.; W.O. tools.
Continental Oil Co. No. 2-A Dielman, NW NE NE sec. 7-35n-65. T.D. 4,025 ft.; cmtd. 7-in. at 3,984 ft.; W.O.C.
Holly Dev. Co. No. 1 Novick, NE SE SW sec. 6-35n-65. T.D. 3,951 ft.; sdtrkd. D.P. and drlg. ahead.
Lewis Gokel No. 1, NE SE NW sec. 31-35n-62w. Drlg. 970 ft.
J. M. Huber Corp. No. 2 Jose, NE NE SW sec. 6-35n-65. Drlg. sh. 3,355 ft.
Ohio Oil Co. No. 5 Leo OPC-16, NW NW SW sec. 35-36n-65w. Drk.; M.I.M.
Ohio Oil Co. No. 9 Lamb, C SE NE sec. 5-35n-65w. M.I.M.
Riggs Oil Co. No. 2 Spaugh, SE SW SW sec. 32-34n-65w. S.D. 1,092 ft. for winter.
Chester Oil Co. No. 1 fee, NE NE NE sec. 14-39n-61. T.D. 940 ft.; fsg. U.R. lug.

Park County

General Pet. Corp. No. 1 Govt., NW NW NW sec. 33-47-100. Drlg. 4,220 ft.
Resolute Oil Co. No. 1 State, C NW SW sec. 16-57-101w. T.D. 8,460 ft.; cleaning up after fire and getting ready to run 3-in. D.P.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. Drlg. 1,300 ft.

Sublet County

California Pet. Corp. No. 4-B, CWL NE NW sec. 34-27n-113. T.D. 745 ft.; drlg. plug.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-55-85. S.D. 3,200 ft.

Sweetwater County

Mountain Fuel Supply Co. No. 1 Cooper, C NW NE sec. 15-16n-104. Cg. 2,183 ft. in gas sat. Frontier.

Uinta County

The Bridger Basin Oil Co. No. 1-B, NW NW SW section 10-14n-118, Aspen district, was abandoned at 1,807 feet on account of a bad hole. This formerly was the Pacific Oil Co.

Washakie County

Three wells were completed in the Hidden Dome field, of which two were dry. Calhoon & Jeffries No. 1 Government, SW NW SW section 30-48-90, which would have proved up about 40 acres on the north, was plugged and abandoned at 2,245 feet. Bruce C. Teeter No. 4 Government, NW SW NW section 31-48-90, will be saved as a water well. It had dry sand at 1,580-1,632 feet and water sand at 1,790 feet. These two wells apparently limit the productive aren of the pool to about 160 acres. The Wyoming Oil & Refining Co. No. 5 Government, SW NW NW section 31-48-90, pumped 23 bbls. initial from sand at 1,480-1,527 feet. The first Frontier produces water in the oil wells on the flank of this dome and the source of the oil is not definitely established, but is believed to be lenticular sand below the first Frontier which forms a closure by pinching out. Two new operations were reported.

Nystrom & Smoot No. 4 State, CEL NE NE sec. 36-48n-91. Spdg. 50 ft.; (first report).
Wyoming O. & R. Co. No. 6 Govt., CWL NW NW sec. 31-48-90. Drlg. 800 ft.; (first report).
Arlton & Doyle No. 1 Govt., SW SW SE sec. 29-48-91. T.D. 1,356 ft.; M.I. heavier machine.
Woods-Callahan Oil Co., Ltd., No. 1 Keyes, SE SE NW sec. 25-48n-91. Drlg. 890 ft.
Christensen & Thorne No. 3 Govt., NW SW SW sec. 31-48n-90w. T.D. 1,320 ft.; P.B. to 200 ft. to str.

Weston County

H. D. Wiltse No. 11, CWL NE NW sec. 17-46-63. Drlg. 350 ft.
Conway Oil Corp. No. 1 Govt., C SE NW sec. 7-41n-60w. T.D. 2,700 ft.; P.B. to 2,345 ft. to S.O. bottom wtr.; prep. to acidize.

MONTANA

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. Resumed with cable tools; drlg. 3,670 ft.

Cascade County

C. Leonard Smith No. 1-A Smith-Schwingle, NE NE SW sec. 14-22n-2e. Drlg. 1,760 ft.

Carbon County

East Bridge O. & G. Co. No. 1, CSL SE SE sec. 23-6n-23e. Drlg. 1,540 ft.

Ohio Oil Co. No. 1 Northern Pacific, SE NE SW sec. 11-7s-21. T.D. 5,772 ft.; conditioning hole to test in Lakota.

Miracle Oil Co. No. 2 Blue Creek, CWL NE SE sec. 3-6s-23e. Drlg. 1,160 ft. in Colo. sh.; (formerly Round Butte Oil Co.).

Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW sec. 35-9s-23e. Drlg. 730 ft.

Fallon County

Montana-Dakota Utilities No. 2 Warren No. 1 Unit 5, C SW sec. 23-8n-59e. T.D. 5,740 ft.; rmg. to bottom.

Montana-Dakota Utilities No. 3 Smith No. 1 Unit 8, C SE NW sec. 8-4n-62e. Drlg. 5,910 ft.

Fergus County

Minnesota Co. No. 1 Fenholt, SE NW SW sec. 24-21n-18e. S.D. 1,100 ft.; tools still in hole.

Judith Operating Co. No. 2 Govt., NW NE sec. 5-22n-17e. T.D. 3,180 ft. (cor.); rng. 8¼-in.

Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-2s-18e. S.D. 496 ft.; C.D.

Emmons et al No. 3, SE NE sec. 6-21-17e. Drlg. 1,081 ft.

Emmons et al No. 4 Govt., SW cor. sec. 3-21n-18e. Drlg. 432 ft.; (first report).

Glacier County

Effective December 1, the Montana Pipe Line Co. made a 25 per cent reduction in the quantity of oil taken from its Cut Bank connections, due to seasonal conditions, principally curtailment of refinery runs by the Imperial Oil Co., in Canada. The reduction was less than was expected.

The Glacier Production Co. has been formed as a wholly owned subsidiary of the Montana Power Co. to take over its oil and gas holdings in Montana at present operated by the Montana Power Gas Co. The change is due solely to facilitate corporate affairs by bringing the properties under a mortgage of the parent company and no change in policies or personnel is anticipated. The company has leases on 95,700 acres of proven, semiproven and prospective oil and gas lands. Engineers estimate that the holdings include 30,000 acres proven gas land, 39,000 acres semiproven gas land, 17,000 acres prospective oil and gas land, and 8,000 acres prospective gas land. Oil acreage includes 5,400 acres proven upon which are 33 wells producing 1,500 bbls. per day; 4,400 acres semiproven oil land and 1,900 acres prospective oil land. The gas properties include pipe lines from Cut Bank to Butte, Helena and Anaconda and from Dry Creek to Livingston. The estimated proven gas reserves are 122,000,000,000 feet a day.

Cut Bank operations are showing a seasonal decline with 14 wells drilling. Only one completion was reported this week and no new locations.

The Texas Co. No. 7 Tribal-122, Loe 9, section 5-32n-5w, swabbed 78 bbls. first 24 hours at a total depth of 2,871 feet. The Sunburst was at 2,790-2,810 feet with a show of oil at 2,800-08 feet. The Cut Bank was at 2,817-66 feet with the pay at 2,849-66 feet. Elevation 3,655 feet.

R. C. Tarrant No. 7 Getty, SW NW SW section 2-34n-6w, reported a completion last week at 2,918 feet, but not tested, swabbed 90 bbls. first 24 hours.

A. B. Cobb No. 2 All.-115, SE NE SE sec. 31-33n-5w. Drlg. 2,515 ft.

Drumheller Reservation Synd. No. 1 Tarrant, C SW SW sec. 21-23n-6w. Drlg. 2,305 ft.

Wm. Hanlon, Agt., No. 1 All.-128, C SE NE sec. 12-32n-6w. Drlg. 1,025 ft.

Hannah-Forter Co. No. 2 All.-130, C NE SW sec. 6-32n-5w. Spdg. 50 ft.

L. V. Hole No. 2 All.-124, C SW SE sec. 1-32n-6w. Drlg. 2,585 ft.

Jack Marshall No. 2 All.-119, C Lot 3, sec. 1-32n-6w. Cmtd. 7-in. at 3,055 ft.; W.O.C.

Montana Power Gas Co. No. 1 Hope Unit, NW NW SE sec. 8-34n-5w. Drlg. 1,430 ft.

Montana Power Gas Co. No. 1 Federal Land Bank, C SW SW sec. 30-34n-5w. Drlg. 230 ft.

Montana Power Gas Co. No. 1 Wallace, C NE SE sec. 5-32n-5w. Drlg. 2,620 ft.

Pardee Drlg. Co. No. 2 Morrison, CEL NE SE sec. 24-33n-6w. Drlg. 2,125 ft.

Vera Johnson No. 1 Tribal-118, C SW SW sec. 1-32n-6w. S.D. 2,900 ft. for 8¼-in.

Dan Whetstone No. 2 Tribal-117, C NE SW sec. 36-33n-6w. Drlg. 310 ft.

A. E. Wilkinson No. 2 All.-111, C SW SW sec. 31-33n-4w. Drlg. 515 ft.

A. E. Wilkinson No. 2 Tribal-126, NW NW NW sec. 7-32n-5w. T.D. 2,770 ft.; drlg. by at 2,750 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15w. S.D. 1,300 ft. (cor.).

Liberty County

Western Natural Gas Co. No. 2 Wallace, NW NW SW sec. 15-37n-4e. S.D. 1,800 ft. for winter.

Musselshell County

Geo. Gregory et al No. 24-A Govt., NW SW NW sec. 25-11n-24e. Drlg. 465 ft. in Quadrant.

Park County

Ben W. Ryan et al No. 1 Burgess, SE SW SW sec. 28-2n-11e. Drlg. 548 ft.

Petroleum County

H. C. Rowland No. 1 Kalispel, NE NE SE sec. 35-14n-25e. Drlg. 610 ft.

Phillips County

The Montana-Dakota Utilities Co. No. 1 Bell, NW SW NW section 8-32n-34e, Bowdoin field, was completed in the pay at 655-762 feet for 554,000 feet of gas per day with rock pressure of 196 pounds.

R. G. Parrent No. 1 Hartman, C NW SE sec. 12-24n-25e. Drlg. 642 ft.

City of Malta No. 1, C SE SE SE sec. 18-30n-30e. Drlg. 800 ft.; 12½-in. at 80 ft.

Pondera County

Clinch Pet., Ltd., No. 1 Holan, NW SW NW sec. 12-23s-6w. S.D. 2,200 ft.

K. P. Hardee No. 1 Hughes, NW NE NW sec. 12-30n-4w. Drlg. 2,450 ft.

Kirk Oil Co. No. 1 Kellogg, SE NW NE sec. 31-28n-4w. S.D. 2,125 ft.

Sheridan County

Cheyenne O. & G. Co. No. 1 Olson, SE SE SE sec. 14-35n-53e. S.D. 2,615 ft.; 500,000 ft. of gas 1,050 ft. and 500,000 ft. at 1,305 ft.; S.O. with 12½-in.

Agen & Goeddertz No. 4 State, NE NE SE sec. 16-35n-3w. Drlg. 550 ft.

Big West Oil Co. No. 5 Dahlquist, NW SW NE sec. 21-35n-3w. Drlg. 700 ft.

Bryant Bros. No. 1 Lashbaugh, NW SE NW sec. 34-35n-2w. S.D. 850 ft.

A. E. Crumley No. 11 Shaw, SE NW NE sec. 35-36n-2w. T.D. 1,587 ft.; swdg. 7-in.

W. M. Fulton No. 1 Thompson, NW SW NE sec. 28-35n-3w. Drlg. 1,300 ft.

McGlautin No. 1 Thompson, NE NE NW sec. 32-35n-3w. Drlg. 150 ft. (first report).

Ohio Oil Co. No. 4 Berg, C SW SW sec. 31-33n-1w. Spdg. 25 ft.

Wm. S. McKnight No. 1 Gunderson, SW SE NW sec. 9-35n-2w. Drlg. 800 ft.

Shaver Oil Co. No. 1 Schaffer, SW SE NE sec. 11-34n-2w. T.D. 1,440 ft.; fishing.

Welch Bros. No. 2 Larum, SW SW NW sec. 25-35n-3w. S.D. 1,658 ft. (cor.).

Watson et al No. 2 Leach, SE NE NE sec. 31-35n-3w. R.U. (first report).

Toole County

Agen & Krause Co. No. 1 Krause, SE SE SE sec. 9-35n-3w. Loc.

Yellowstone County

R. C. Tarrant No. 1 Harper, CEL SW NW sec. 4-3s-25e. Drlg. 1,065 ft. (first report).

NEBRASKA

Dawes County

Stephens Oil Corp. No. 1 Palmer, C NW SW sec. 1-32n-50w. Rng. 10⅝-in. to 1,740 ft.

Redwillow County

C. W. Kelly et al No. 1 Bower, SE NW SE sec. 2-2n-99w. S.D. 1,450 ft.

Sioux County

J. M. Huber Corp. and United Producers, Inc., et al No. 1 Morgan, C SW SW SW sec. 39-95n-56w. Drlg. 2,480 ft.

Franklin County

Wm. Steinlee No. 1, SE NE SE sec. 25-1n-15w. Drlg. 402 ft.

Lincoln County

Smith & Wright No. 1 Hansen, sec. 24-15n-30w. Completed W.W.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 1 Lauzur, CNL NW NW sec. 27-3n-24e. R.U.R.

Emery County

California Co.-Continental Oil Co. No. 1-A Palm, C NW NW sec. 27-23s-11e. R.U.R.

Grand County

The first drilling operation reported in the past year or two in the Cisco gas field in eastern Grand County is the Perfection Oil & Gas Co. No. 1 Government, CEL NW SW section 30-20s-22e, which was completed at 1,990 feet for 2,000,000 feet of gas, estimated. This field was drilled several years ago and a number of wells supply gas for the manufacture of carbon black.

Columbia Crude Corp. No. 1 Rath, NW SW SW sec. 12-35s-20e. Drlg. 1,804 ft. in Hermosa.

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. Drlg. 5,818 ft. in sh.

Utah County

Diamond Oil Co. No. 4 Govt., CSL SE NW sec. 16-3s-5e. T.D. 4,900 ft.; fsg. bit.

Summit County

Longwell Pet. Co. No. 1, SE SW SE sec. 35-3n-5e. T.D. 1,920 ft.; rng. 6⅝-in.

Washington County

One of the largest producers completed in the Virgin field was the Utah Parks Petroleum Co. No. 11 State, which made 15 bbls. per day on the pump from sand at 600-08 feet in the Moenkopi. The oil from this shallow field is refined in a local skimming plant and marketed in that territory.

The Burnham Oil Co. No. 8, NE SW NW section 13-41-12w, is a near completion at 540 feet where it is testing an oil show.

Canadian Fields

(Continued from Page 83)

gallons of acid, increased its wet gas flow from 2,500,000 to 5,500,000 feet a day. It is testing naphtha recovery, which was originally around 25 bbls. a day.

Farther north and west in the same section, Sovereign Royalties No. 1 Myers & Wright, LSD 14, with wet gas production estimated 13,000,000 feet, has increased its naphtha recovery to more than 70 bbls. Immediately to the north, Renfrew Royalties No. 1 Morris & Goodfellow, LSD 3, section 28-18-2w5, is more than 520 feet in the Madison at 6,530-foot depth with some increase in wet gas, earlier estimated at 12,000,000 feet a day. It will shortly test production and looks like another naphtha well.

Recent completions indicate that the line between the naphtha and crude zones on the west flank of the structure is fairly close to the eastern boundary of the westernmost tier of subdivisions in sections 21 and 28. As the crest of the structure has a northwesterly-southeasterly trend, the dividing line north of the present development is likely to lie somewhat farther west.

High River Area

In the High River-Aldersyde area, west of Turner Valley, Arca Development Corp No. 1, NW section 24-18-1w5, is below 8,313 feet with production expected between 8,500 and 8,600 feet. On the Aldersyde structure, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is around 7,000 feet.

Location of Main Pool

While the completion of two crude producers west of the naphtha field in South Turner Valley and 1⅜ miles apart is regarded as important, there is still difference of opinion as to the location of the main oil pool. Some geologists believe this pool will be found, not toward the badly broken front fold of the Rockies toward the west, but farther to the east, and that the oil is finding its way into fissures up through the block-faulted Turner Valley structure and is highly refined in the migration process. It is regarded as possible that both the Turner Valley and foundation wells may have found the same west dipping fault or fissure. This argues the existence of an enormous reservoir of heavier crude at great depth east of the Turner Valley field.

Drilling in Ontario

In the Dawn field, Lambton County, Ontario, Union Gas Co. No. 86, SE quarter Lot 30, Concession 5, Sombra Township, west of the proven field, finished a dry hole at 2,042 feet and has been pulled and plugged. No shows of any kind were encountered. Union No. 87, NW cor. E half Lot 23, Concession 1, Dawn Township, finished dry around 2,070 feet and is being abandoned. Union No. 88, NE quarter Lot 25, Concession 2, is below 1,875 feet after getting a very small gas show around 1,420 feet. Union No. 90 has been located in NW cor. E half Lot 24, Concession 4. Union No. 89 will be drilled in the southern end of the field.

In Enniskillen Township, Lambton County, P. D. Bornman & Co. No. 1, Lot 29, Concession 9, is below 1,730 feet.

In Chatham Township, Kent County, Union Gas Co. No. 6 has been located in NE cor. SE quarter Lot 10, Concession 12, about 4,000 feet northeast of Union No. 5, which got a small commercial production, around 225,000 feet a day, at 1,440 to 1,458 feet. Ogletree Syndicate No. 2, Lot 13, Concession 5, is below 1,660 feet after getting a show of gas at 1,560 feet.

In Haldimand County, Kelly Gas & Oil Co. of Toronto has finished a shallow gasser on the Mahlon Wilkins farm, Walpole Township, with 990,000 feet a day open flow and 460 pounds pressure. The well is one of the largest gassers yet drilled in the Haldimand field.

In the Petrolia shallow field, Lambton County, Ontario, Noble Ward has purchased the J. E. Armstrong oil property, which, during his absence in Trinidad, will be operated by his brother, John Ward.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Dec. 14.—The attention of oil and gas operators in the Central West fields was focused on four deep tests being drilled in Johnson County, in eastern Kentucky, this past week and results of this deep drilling are being anxiously awaited. Oil fields in Johnson County have been idle for the past few months and very little work has been under way in eastern Kentucky for the past year. These tests have stimulated operations throughout that district, however, and a good many leases are being taken at this time.

Six completions were reported in Ohio County, in western Kentucky, the past week, and an increase in operations is noticeable. In the Dundee pool, Petroleum Exploration Co. No. 13 R. & H. Graham has a production of 35 bbls. the first 24 hours after a shot, and the same operators are drilling No. 14 and have a rig up for No. 15. In the same pool, Elvis Dehart No. 2 O'Dell heirs was a dry hole, but No. 3 made 50 bbls. after a shot, and these operators have a rig up for No. 5 and are drilling No. 4. Kentucky Natural Gas Co. completed Nos. 2 and 3 on the Alex Whitehouse property. No. 2 had an initial production of 30 bbls. and No. 3 was a duster. In the Oak pool, Cumberland Petroleum Co. No. 11 Guy Richards was also a failure.

CENTRAL OHIO FIELD

Twenty-six completions were reported in the Central Ohio field; 6 dry holes, 15 gas wells and 5 oil producers with a total new production of 70 bbls. In Cuyahoga County, Lot 306, Newburg Township, National Smelting Co. No. 1, on Sub-Division property, gauged 1,000,000 feet of gas in the Cinnamon sand at 610-1,054 feet. The same operators are down 450 feet on the J. Breck property in the same lot.

In Stark County, section 2, Jackson Township, East Ohio Gas Co. No. 1 M. Carlson was completed in the Clinton sand at 4,373-4,400 feet and gauged at the rate of 1,196,000 feet of gas two hours after a shot. In section 4, same township, Ohio Fuel Gas Co. completed a commercial gas well on the C. J. Butchel property in the same sand. The same operators have staked locations on the J. Friedman farm in section 16 and on the John Stockert property in section 17. East Ohio Gas Co. was rigged up on the Willowdale Club property. In Plain Township, section 15, Lyons & Co. No. 2 Hiram Shaub gauged 3,368,000 feet of gas in the Clinton sand at 4,536-65 feet. In the same section, East Ohio Gas Co. No. 2 H. G. McDowell made 2,369,000 feet of gas in the same sand.

Ohio Fuel Gas Co. No. 1 M. G. Bird in section 10, Monroe Township, Holmes County, was completed as a small gas well, and in section 13 the same operators are plugging the No. 1 T. W. Strouse, which was abandoned after making a small showing of gas.

In Tuscarawas County, section 21, Clay Township, George Jewell No. 1 Frank Kinsey was drilled to the Oriskany sand at 3,736-45 feet, which proved to be dry and the hole is being plugged back to the Berea sand, which proved to be dry, and the hole is being plugged back to the Berea sand, where it will be shot. In section 3, Wayne Township, Ohio Fuel Gas Co. has staked a new location on the L. Grueneisen property.

Snyder & Wiles No. 1 Charles Fletcher in Lot 62, Columbia Township, Lorain County, was completed in the Clinton sand at 2,672-82 feet and gauged 750,000 feet of gas naturally. In section 11, Avon Township, Ohio Fuel Gas Co. staked location on the John Shopoff property, and in Lot 57, Grafton Township, the same company has staked a location on the Evelyn Burrer farm.

In Medina County, section 33, Brunswick Township, Ohio Fuel Gas Co. completed a very small gas well on the C. L. Benjamin farm, and it is being plugged and will be abandoned. The same company staked location on B. W. Nichols property in Lot 37, Medina Township. In section 8, Liverpool Township, Obermiller Brothers No. 1 Paul Szoke was completed in the Clinton sand at 2,731-41 feet and gauged 650,000 feet of gas naturally.

In Portage County, section 25, Streetsburg Township, Wittmer Oil & Gas Co. has staked a location on the Scott Patterson property, and in section 13, Palmyra Township, Cashdollar & Co. has resumed drilling on the No. 1 J. T. Henderson.

Brooks Johnson is spudding on the C. A. Squire property in section 10, Twinsburg Township, Summit County, and in section 32, Green Township, East Ohio Gas Co. is spudding on the Camp Y'Noaha property.

In Richland County, section 15, Monroe Township, Ohio Fuel Gas Co. No. 1 David Cullar was drilled to a total depth of 2,472 feet and was abandoned as a dry hole.

Ohio Fuel Gas Co. No. 1 Harry Horn in section 24, Butler Township, Knox County, was completed in the sand at 2,967-87 feet and is a small commercial gas well. The same operators have staked three new locations on the Sylvia Flack farm in section 17, same township.

In Logan County, McArthur Township, H. Gross No. 1 on his own property made 29,000 feet of gas in the sand at 1,400-06 feet.

Mosier & Co. No. 33 Charles Yarnell in Location 2, Windsor Township, Morgan County, was completed in the first Cow Run sand at 626-40 feet and made 1 bbl. of oil after a shot. In Location 1,129, same township, Turney & Co. have moved the rig from the No. 8 Narcissa Hardin. This well made a showing of oil at 440 feet but has not been shot and this well has not been abandoned.

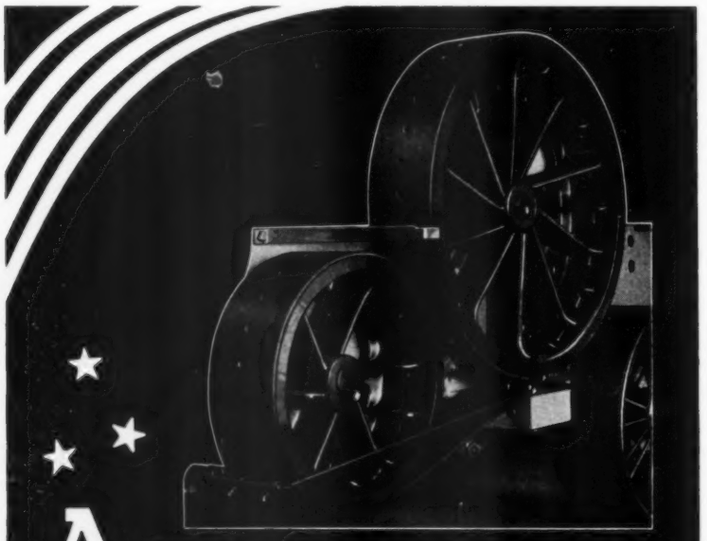
In Hancock County, section 33, Delaware Township, Bart Sheldon No. 1 William Hinebaugh made 1 bbl. of oil and 22,000 feet of gas in the Trenton sand at 1,337-45 feet.

In Perry County, section 36, Coal Township, Bell & Co. No. 2 S. & C. Seidenfield was drilled through the Clinton sand at 3,661-3,702 feet, filled up 1,400 feet with oil and made 50 bbls. after a shot. In section 15, Monroe Township, Allegheny Oil Co. No. 1 Nelson Rodgers was completed below the Berea sand at 1,004-24 feet and after being shot wth 30 quarts is pumping 1 bbl. a day. Preston Oil Co. made location for No. 4 on the W. T. Marshall & Co. property in section 31, same township. In section 2, Wehrle Brothers are spudding No. 5 Worley Deaver. In section 31, Hopewell Township, Hopewell Gas Co. No. 1 Earl Poorman was completed below the Clinton sand at 2,863-2,968 feet and gauged 1,108,000 feet of gas naturally.

Meigs Developing Co. No. 7 Jennie Allen in section 17, Lebanon Township, Meigs County, was completed below the first Berea sand at 1,919-23 feet and gauged 350,000 feet of gas after a shot. In section 11, Bedford Township, Stewart & Ross No. 1 Denver Vannest, which made a showing of gas at 700 feet, gauged 20,000 feet of gas at 1,135 feet and is being drilled deeper. In section 1, Rutland Township, Barton & Utsinger No. 3 Dolph Hysell gauged 300,000 feet of gas in the Maxon sand at 760-800 feet. In section 2, Marshall & Reed have a machine on the Rannie Moore property. In section 14, same township, F. L. McKnight has rigged up for No. 4 on the Walter Gross farm.

In Athens County, section 16, Lodi Township, Ohio Fuel Gas Co. completed No. 5 State of Ohio property as a commercial gas well in the Stray sand at 682-96 feet. In section 17 the same company's No. 1 R. E.

(Continued on Page 99)



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Summary of Operations, All Fields, November

SUMMARY OF ALL FIELDS

Wells Completed

	Comp.	Prod.	Dry	Gas
Penn. Grade fields	444	920	33	82
Lima	10	65	2	5
Central Ohio	111	526	29	63
Indiana	14	45	6	6
Illinois	1	0	1	0
Kentucky	33	676	8	1
Michigan	57	3,921	27	11
Kansas	136	84,242	34	3
Oklahoma	178	54,301	48	11
North Central Texas	216	17,088	95	1
West Texas	154	108,890	14	3
Texas Panhandle	51	13,986	4	16
East Texas	162	6,412	7	0
East Central Texas	48	9,013	6	2
East Texas border	42	20,879	4	2
Gulf Coast, Texas	116	31,601	22	6
Southwest Texas	285	46,575	62	6
North Louisiana	40	11,092	11	7
Gulf Coast, Louisiana	41	10,366	11	1
Arkansas	8	960	5	1
Mississippi	1	0	1	0
Montana	25	496	3	11
Wyoming	14	3,423	3	2
Colorado	3	1,500	2	0
New Mexico	44	30,990	2	0
Utah	1	0	0	1
Total Nov.	2,235	457,877	440	241
Total Oct.	2,351	555,094	443	197
Difference	116	97,217	3	44

Rigs and Wells Drilling

	Rigs	Drlg.	Ttl.
Penn. Grade fields	96	452	548
Lima	8	25	33
Central Ohio	67	143	210
Indiana	5	29	34
Illinois	0	10	10
Kentucky	23	44	67
Michigan	74	119	193
Kansas	52	305	357
Oklahoma	62	452	514
North Central Texas	59	212	271
West Texas	46	309	355
Texas Panhandle	30	131	161
East Texas	51	86	137
East Central Texas	28	78	106
East Texas border	8	76	84
Gulf Coast, Texas	42	125	167
Southwest Texas	74	200	274
North Louisiana	16	106	122
Gulf Coast, Louisiana	11	88	99
Arkansas	8	36	44
Mississippi	5	12	17
Alabama	0	1	1
Florida	0	4	4
Montana	1	55	56
Wyoming	4	61	65
Colorado	2	33	35
New Mexico	14	128	142
Utah	0	7	7
Nebraska	0	5	5
Total Nov.	786	3,332	4,118
Total Oct.	866	3,274	4,140
Difference	80	58	22

OKLAHOMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Atoka	1	0	1	0	0	3	3
Beckham	0	0	0	0	0	1	1
Caddo	2	0	1	1	0	9	9
Carter	7	70	2	0	3	14	17
Cleveland	0	0	0	0	2	12	14
Coal	1	0	1	0	0	9	9
Comanche	3	0	3	0	0	7	7
Cotton	1	0	0	1	0	3	3
Creek	15	1,325	2	1	6	29	35
Garfield	0	0	0	0	0	2	2
Garvin	3	1,072	1	0	1	8	9
Grady	0	0	0	0	1	1	2
Grant	0	0	0	0	0	1	1
Greer	0	0	0	0	0	1	1
Harmon	0	0	0	0	0	1	1
Hughes	3	0	2	1	3	17	20
Jackson	4	388	2	0	1	2	3
Jefferson	4	80	3	0	0	4	4
Johnston	0	0	0	0	0	1	1
Kay	0	0	0	0	1	5	6
Kiowa	2	0	2	0	1	12	13
Latimer	0	0	0	0	0	2	2
Leflore	0	0	0	0	1	6	7
Lincoln	2	481	0	0	1	11	12
Logan	1	9,082	0	0	0	3	3
Love	0	0	0	0	0	1	1
Marshall	1	20	0	0	0	2	2
McIntosh	0	0	0	0	0	1	1
Murray	0	0	0	0	0	4	4
Muskogee	1	0	1	0	2	4	6
Noble	1	130	0	0	1	4	5
Okfuskee	23	3,920	4	1	2	22	24
Oklahoma	6	4,292	0	0	2	18	20
Okmulgee	8	0	5	3	4	25	29
Osage	15	1,967	3	0	4	32	36
Pawnee	1	0	1	0	0	1	1
Payne	3	155	1	0	0	6	7
Pittsburgh	2	0	0	2	0	0	0
Pontotoc	37	27,606	4	0	2	0	2
Pottawatomie	4	1,392	1	0	17	90	107
Pushmataha	0	0	0	0	2	10	12
Seminole	19	2,169	5	0	3	32	35
Stephens	4	132	1	0	0	13	13
Tillman	1	0	1	0	0	4	4
Texas	0	0	0	0	0	1	1
Tulsa	3	20	1	1	2	9	11
Wagoner	0	0	0	0	2	4	6
Washita	0	0	0	0	0	1	1
Total Nov.	178	54,301	48	11	62	452	514
Total Oct.	219	92,589	64	7	67	468	535
Difference	41	38,088	16	4	5	16	21

KANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Barber	1	1,164	0	0	0	3	3
Barton	7	7,583	2	0	8	25	33
Butler	4	57	1	0	0	10	10
Chase	1	0	1	0	0	1	1
Clark	1	2,358	0	0	0	1	1
Coffey	4	248	0	0	0	5	5
Cowley	4	2,386	0	0	2	13	15
Decatur	0	0	0	0	0	1	1
Edwards	0	0	0	0	0	1	1
Ellis	14	7,479	7	0	5	13	18
Ellsworth	4	2,573	1	0	1	4	5
Graham	2	0	2	0	0	0	0
Grant	0	0	0	0	0	1	1
Greenwood	6	108	2	0	1	4	5
Harvey	3	3,360	0	0	1	11	12
Haskell	0	0	0	0	1	1	2
Kearny	0	0	0	0	1	1	2
Kingman	1	192	0	0	0	1	1
Lincoln	0	0	0	0	0	1	1
Logan	0	0	0	0	0	1	1
Lyon	0	0	0	0	1	4	5
Marion	1	0	1	0	0	1	1
McPherson	5	5,662	0	0	3	17	20
Meade	0	0	0	0	1	0	1
Morton	0	0	0	0	1	0	1
Mitchell	0	0	0	0	0	1	1
Ness	0	0	0	0	0	2	2
Pawnee	0	0	0	0	0	1	1
Pratt	1	0	1	0	0	1	1
Reno	17	8,000	4	0	5	23	28
Rice	20	16,969	3	0	5	53	58
Rooks	0	0	0	0	0	9	9
Rush	4	305	0	0	2	5	6
Russell	18	21,226	0	0	4	48	52
Saline	0	0	0	0	0	1	1
Sedgwick	0	0	0	0	0	1	1
Seward	0	0	0	0	2	5	7
Scott	0	0	0	0	0	1	1
Sheridan	0	0	0	0	0	1	1
Smith	0	0	0	0	0	1	1
Stafford	4	965	3	0	0	1	1
Stevens	1	0	0	0	1	10	11
Sumner	2	2,744	0	0	1	2	3
Trego	4	428	3	0	0	3	3
Woodson	7	435	2	0	0	6	6
Ttl. Nov.	136	84,242	34	3	52	305	357
Ttl. Oct.	168	114,031	38	5	59	291	350
Diff.	32	29,789	4	2	7	14	7

NORTH CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Archer	26	250	14	0	1	7	8
Baylor	1	0	1	0	1	1	2
Brown	1	0	1	0	0	1	1
Callahan	2	0	1	1	2	11	13
Clay	3	20	1	0	0	4	4
Coleman	1	0	1	0	0	5	5
Comanche	0	0	0	0	0	1	1
Collin	0	0	0	0	0	3	3
Cooke	24	2,135	8	0	2	19	21
Denton	0	0	0	0	1	4	5
Eastland	2	0	2	0	0	10	10
Erath	0	0	0	0	1	1	2
Foard	0	0	0	0	0	2	2
Grayson	0	0	0	0	0	4	4
Hamilton	0	0	0	0	0	3	3
Jack	25	5,445	8	0	14	36	50
Johnson	0	0	0	0	0	1	1
McCulloch	0	0	0	0	0	1	1
Montague	13	375	3	0	2	9	11
Palo Pinto	1	0	1	0	0	2	2
Parker	0	0	0	0	0	1	1
Shackelford	17	1,100	8	0	2	15	17
Stephens	0	0	0	0	2	3	5
Tarrant	0	0	0	0	1	1	2
Throckmorton	1	0	1	0	0	2	2
Wichita	34	1,120	14	0	4	21	25
Wilbarger	3	95	1	0	2	5	7
Wise	0	0	0	0	1	1	2
Young	62	6,548	30	0	21	38	59
Ttl. Nov.	216	17,088	95	1	59	212	271
Ttl. Oct.	269	26,101	108	2	72	206	278
Difference	53	9,013	13	1	13	6	7

WEST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Andrews	0	0	0	0	1	8	9
Brewster	0	0	0	0	0	2	2
Coke	0	0	0	0	1	0	1
Crane	8	2,708	0	0	1	23	24
Cochran	1	84	0	0	0	1	1
Crockett	0	0	0	0	0	2	2
Dawson	0	0	0	0	0	1	1
Ector	15	5,564	2	0	1	23	24
Edwards	0	0	0	0	0	3	3
El Paso	0	0	0	0	0	1	1
Fisher	0	0	0	0	1	5	6
Gaines	2	50	1	0	0	2	2
Garza	1	132	0	0	1	1	2
Glasscock	1	420	0	0	2	6	8
Hockley	0	0	0	0	0	1	1
Howard	9	4,668	1	0	3	17	20
Hudspeth	0	0	0	0	0	1	1
Jeff Davis	0	0	0	0	0	1	1
Jones	7	150	5	0	3	23	26
Kimble	0	0	0	0	0	1	1
Loving	1	45	0	0	1	3	4
Lynn	0	0	0	0	1	1	2
Pecos	13	3,496	5	0	5	30	35
Presidio	0	0	0	0	1	1	2
Schleicher	0	0	0	0	1	1	2
Scurry	1	6	0	0	0	1	1
Taylor	0	0	0	0	0	3	3
Terrell	0	0	0	0	0	1	1
Terry	0	0	0	0	0	3	3
Tom Green	0	0	0	0	1	2	3
Upton	15	10,599	0	0	7	20	27
Ward	32	39,493	0	2	4	65	69
Winkler	48	41,475	0	0	12	55	67
Yoakum	0	0	0	0	0	1	1
Ttl. Nov.	154	108,890	14	3	46	309	355
Ttl. Oct.	164	96,786	19	3	102	333	435
Diff.	10	12,104	5	0	56	24	80

TEXAS PANHANDLE

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Briscoe	0	0	0	0	0	1	1
Carson	5	1,391	1	2	1	13	14
Childress	0	0	0	0	0	1	1
Collingsworth	0	0	0	0	1	0	1
Gray	15	6,948	0	0	1	1	2
Hansford	0	0	0	1	6	44	50
Hartley	0	0	0	0	0	1	1
Hutchinson	17	5,059	2	3	17	39	56
Moore	7	0	0	0	7	2	9
Ochiltree	0	0	0	0	0	1	1
Potter	1	0	0	0	1	0	1
Roberts	0	0	0	0	0	2	2
Wheeler	6	588	1	2	1	16	17
Total Nov.	51	13,986	4	16	30	131	161
Total Oct.	58	24,475	1	14	34	128	162
Difference	7	10,489	3	2	4	3	1

GULF COAST FIELDS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Drlg.	Ttl.
Ace	0	0	0	0	1	0	1
Amelia	3	670	1	0	0	5	5
Anahuac	8	3,096	1	1	4	5	9
Arriola	1	179	0	0	0	1	1
Bay City	0	0	0	0	0	1	1
Batson	0	0	0	0	0	1	1
Big Hill	0	0	0	0	0	2	2
Big Creek	2	318	0	0	1	0	1
Blue Ridge	1	0	1	0	0	3	3
Boling	0	0	1	0	0	2	2
Clay Creek	0	0	0	0	0	2	2
Cleveland	0	0	0	0	0	2	2
Clinton	1	142	0	0	0	1	1
Conroe	5	3,878	0	0	1	0	1
Cotton Lake	3	332	1	0	0	4	4
Dickinson	2	510	1	0	1	3	4
Esperson	1	0	0	0	2	6	8
Fannett	1	435	1	0	0	1	1
Fairbanks	1	240	0	0	0	0	0
Five Corners	1	0	0	1	0	0	0
Greta	2	905	0	0	0	4	4
Goose Creek	1	144	0	0	0	2	2
Greens Lake	1	0	1	0	0	1	1
Hankamer	0	0	0	0	0	1	1
Hastings	8	4,148	0	0	0	9	9
Hawkinsville	0	0	0	0	0	1	1
Heyser	4	576	0	1	2	3	5
Hughes	1	0	1	0	0	0	0
High Island	1	109	0	0	1	2	3
Hull	2	490	0	0	2	2	4
Keeran	0	0	0	0	1	0	1
Lockridge	1	465	0	0	0	2	2
Louise	2	218	0	0	1	2	3
Magnet	2	85	1	0	1	0	1
Manvel	5	1,125	0	0	0	1	1
Markham	1	298	0	0	0	1	1
Nome	3	669	0	0	0	1	1
Mykawa	2	75	1	0	0	1	1
Old Ocean	0	0	0	0	0	1	1
Orchard	1	49	0	0	0	1	1
Orange	1	15	0	0	0	1	1
Pickett Ridge	3	612	0	0	0	1	1
Placedo	6	625	0	0	4	4	8
Raccoon Bend	4	1,736	2	0	0	2	2
Refugio	2	0	0	2	0	0	0
Seabreeze	1	24	0	0	0	0	0
South Houston	6	2,643	0	0	2	3	5
Thompson	2	175	0	0	1	0	1
Tomball	8	2,859	1	0	2	3	5
Quintana-O'Connor	3	2,600	0	0	0	3	3
Turtle Bay	1	556	0	0	1	1	2
Van Vleck	1	0	1	0	0	3	3
West Columbia	1	0	1	0	0	0	0
Withers	2	600	0	0	1	2	3
Misc.	8	0	8	0	7	27	34
Ttl. Nov.	116	31,601	22	6	42	125	167
Ttl. Oct.	105	34,012	20	3	30	149	179
Difference	11	2,411	2	3	12	24	12

Coastal Louisiana

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Drlg.	Ttl.
Bayou Mallet	0	0	0	0	1	0	1
Big Lake	0	0	0	0	0	1	1
Bay St. Elaine	0	0	0	0	1	0	1
B. Bayou	0	0	0	0	0	1	1
Caillou Is.	2	1,733	1	0	0	2	2
Cameron Meadows	1	465	0	0	0	2	2
Charenton	1	0	1	0	0	1	1
Choctaw	1	0	1	0	0	1	1
Darrow	0	0	0	0	0	1	1
Gibbs	5	906	1	0	0	7	7
Four Isle	1	0	1	0	0	0	0
Garden Is.	0	0	0	0	0	1	1
Hackberry	3	1,008	2	0	0	7	7
Iowa	0	0	0	0	0	1	1
Jeanerette	2	600	1	0	1	2	3
Jennings	3	290	0	0	0	4	4
Lafitte	0	0	0	0	0	2	2
Lake Barre	0	0	0	0	0	1	1
Lake Hermitage	0	0	0	0	0	1	1
Lake Pelto	0	0	0	0	0	1	1
Leesville	2	144	0	0	0	1	1
New Iberia	4	2,010	0	0	0	3	3
Port Barre	2	8	1	1	0	7	7
Roanoke	2	1,008	0	0	1	0	0
St Martinsville	0	0	0	0	0	1	1
S. Jennings	1	96	0	0	0	0	0
Sorrento	1	0	1	0	1	1	2
Starks	1	384	0	0	0	1	1
Sulphur	1	500	0	0	1	3	4
Tepetate	6	1,214	0	0	2	2	4
Vinton	0	0	0	0	0	1	1
White Castle	0	0	0	0	0	1	1
Miscel.	2	0	2	0	3	31	34
Ttl. Nov.	41	10,366	11	1	11	88	99
Ttl. Oct.	29	11,092	10	0	19	76	95
Difference	12	726	1	1	8	12	4

EAST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Anderson	4	431	0	0	2	6	8
Angelina	1	0	1	0	0	2	2
Bowie	0	0	0	0	2	2	4
Cherokee	0	0	0	0	0	3	3
Falls	0	0	0	0	0	1	1
Fannin	0	0	0	0	0	3	3
Franklin	2	0	2	0	0	3	3
Freestone	5	2,603	0	0	2	4	6
Gregg	1	0	0	1	1	2	3
Henderson	84	3,566	5	0	24	41	65
Hopkins	2	166	1	0	0	3	3
Hunt	3	2,208	0	0	3	2	5
Lamar	0	0	0	0	0	1	1
Leon	0	0	0	0	1	1	2
Limestone	0	0	0	0	1	2	3
Nacogdoches	0	0	0	0	2	0	2
Navarro	0	0	0	0	0	2	2
Rains	2	0	1	1	1	1	2
Red River	0	0	0	0	0	1	1
Rockwall	1	0	1	0	0	5	5
Rusk	0	0	0	0	0	1	1
Smith	53	2,203	1	0	14	30	44
Titus	10	268	0	0	4	2	6
Upshur	26	3,529	0	0	10	34	44
Van Zandt	15	375	1	0	7	12	19
Wood	1	76	0	0	2	2	4
	0	0	0	0	0	1	1
Ttl. Nov.	210	15,425	13	2	79	164	243
Ttl. Oct.	246	13,333	20	3	104	159	263
Difference	36	2,092	7	1	25	5	20

SOUTHWEST TEXAS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Drlg.	Ttl.
Agua Dulce	1	0	1	0	1	2	3
Alta Mesa	0	0	0	0	0	1	1
Alta Verde	0	0	0	0	2	1	3
Bentonville	1	0	1	0	1	1	2
Branyon	6	440	0	0	0	6	6
Carolina-Texas	0	0	0	0	0	1	1
Charco Redondo	0	0	0	0	1	0	1
Charamouca	0	0	0	0	0	1	1
Chicon Lake	1	5	0	0	0	0	0
Clara Driscoll	2	1,250	0	0	3	5	8
Clark	2	60	0	0	2	3	5
Cole	0	0	0	0	0	1	1
Colmena	2	0	2	0	1	0	1
Colorado	0	0	0	0	1	0	1
Cosden	0	0	0	0	0	1	1
Cuellar	1	0	1	0	0	1	1
Cuevitas	1	0	1	0	0	1	1
Driscoll	1	290	0	0	0	0	0
El Mesquite	1	0	1	0	0	0	0
Escobas	7	815	0	0	2	0	2
Flour Bluff	6	1,000	0	0	2	4	6
Foley	2	15	1	0	0	2	4
Gas Ridge	0	0	0	0	0	1	1
Govt. Wells	6	205	0	2	2	0	2
Haynes	21	625	3	0	3	5	8
Hilbig	0	0	0	0	1	0	1
Hoffman	5	405	1	0	1	2	3
Ina	0	0	0	0	0	1	1
Jacob	4	175	0	0	1	5	6
Kohler	1	330	0	0	0	1	1
Las Albercas	0	0	0	0	0	1	1
Loma Novia	16	4,145	0	0	3	7	10
Lopez	28	9,440	1	0	1	7	8
Los Olmos	0	0	0	0	0	1	1
Lucas	0	0	0	0	0	1	1
Maetz	0	0	0	0	0	1	1
Margo	0	0	0	0	0	1	1
McCampbell	0	0	0	0	1	0	1
McCrory	0	0	0	0	0	1	1
Mercedes	0	0	0	0	0	1	1
Mestanas	1	0	1	0	0	1	1
N. Pettus	1	0	1	0	0	2	2
Oakville	1	180	0	0	0	2	2
O'Hern	0	0	0	0	0	1	1
Pearsall	18	5,665	1	0	1	4	5
Peters	0	0	0	0	0	3	3
Pettus	2	85	0	0	0	1	1
Piedra	1	0	1	0	0	0	0
Lumbre	1	30	0	0	0	1	1
Plummer	0	0	0	0	0	1	1
Plymouth	5	610	2	0	1	5	6
Ray	0	0	0	0	0	1	1
Rhode	0	0	0	0	0	1	1
Rio Grande City	1	30	0	0	2	0	2
Santo Domingo	1	0	1	0	0	0	0

Samfordyce	3	135	0	0	3	1	4
Sandia	0	0	0	0	0	1	1
Saxet	43	6,360	2	0	5	36	41
Saxet Hgts.	21	2,770	1	1	3	7	10
Seven Sisters ..	24	9,940	1	1	2	5	7
Taft	6	1,440	6	0	2	2	4
Von Ormy.	0	0	0	0	0	1	1
Voss	3	130	2	0	0	1	1
W. Pre-mont ...	0	0	0	0	1	2	3
W. Tuleta.	1	0	1	0	0	1	1
White Pt..	1	0	1	0	0	0	0
Miscel. ...	37	0	35	2	25	52	77
Ttl. Nov.	285	46,575	62	6	74	200	274
Ttl. Oct.	259	44,083	58	12	73	202	275
Difference	26	2,492	4	6	1	2	1

NORTH LOUISIANA

Summary of Field Operations

Parish—	Comp.	Prod.	Dry	Gas*	Rigs	Dlg.	Ttl.
Bienville ...	0	0	0	0	0	4	4
Bossier	2	0	0	2	1	3	4
Caddo-Rodessa .	16	10,069	0	0	4	19	23
Caddo-Other	6	168	2	0	4	18	22
Catahoula .	0	0	0	0	1	0	1
Claiborne ..	2	0	1	1	1	2	3
Concordia ..	0	0	0	0	0	1	1
De Soto ...	3	15	2	0	1	5	6
Franklin ...	0	0	0	0	0	2	2
Grant	2	0	2	0	0	7	7
Jackson ...	0	0	0	0	1	1	2
LaSalle	1	0	1	0	0	1	1
Lincoln	0	0	0	0	0	1	1
Morehouse .	2	0	0	2	1	4	5
Natchitoches	0	0	0	0	0	4	5
Ouachita ..	0	0	0	0	1	1	2
Red River .	0	0	0	0	0	4	4
Richland ..	0	0	0	0	0	1	1
Sabine	3	750	2	0	0	9	9
Tensas	0	0	0	0	0	2	2
Union	3	0	1	2	0	3	3
Webster ...	0	0	0	0	0	13	13
West Carrol.	0	0	0	0	0	1	1
Winn	0	0	0	0	1	0	1
Total Nov.	40	11,002	11	7	16	106	122
Total Oct.	72	20,458	10	11	16	104	120
Difference	32	9,456	1	4	0	2	2

*Gas production: Bossier, 43,000,000; Claiborne, 20,000,000; Union, 10,000,000; Morehouse, 9,000,000 feet.

Rodessa wells gauged by making one-hour flow through one-quarter to one-half inch tubing choke and multiplying by 24.

ARKANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas*	Rigs	Dlg.	Ttl.
Bradley ...	1	0	1	0	0	0	0
Calhoun ...	0	0	0	0	0	1	1
Clark	0	0	0	0	0	1	1
Cleveland ..	0	0	0	0	1	2	3
Columbia ..	1	0	1	0	0	2	2
Crawford ..	0	0	0	0	0	1	1
Dallas	0	0	0	0	0	1	1
Grant	0	0	0	0	0	1	1
Hempstead.	0	0	0	0	0	4	4
LaFayette .	0	0	0	0	1	0	1
Little River	0	0	0	0	0	3	3
Lonoke	0	0	0	0	1	0	1
Miller	1	0	1	0	0	4	4
Nevada	2	480	0	1	3	4	7
Ouachita ..	1	0	1	0	1	6	7
Powe	0	0	0	0	0	1	1
Pulaski	0	0	0	0	0	1	1
Union	2	480	1	0	1	4	5
Total Nov.	8	960	5	1	8	36	44
Total Oct.	6	0	6	0	8	32	40
Difference	2	960	1	1	0	4	4

*Hempstead County, 4,900,000 feet.

EAST TEXAS (Border Counties)

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas*	Rigs	Dlg.	Ttl.
Bowie	1	0	1	0	0	3	3
Cass (Rodessa) ...	36	20,849	0	1	6	57	63
Harrison	2	30	1	0	0	3	3
Marion	0	0	0	0	0	4	4
Panola	2	0	1	1	1	5	6
Sabine	0	0	0	0	0	1	1
Shelby	1	0	1	0	1	3	4
Total Nov.	42	20,879	4	2	8	76	84
Total Oct.	30	18,308	5	1	20	66	86
Difference	12	2,571	1	1	12	10	2

*Gas production: Cass, 8,800,000 feet.

Rodessa wells in Cass County gauged by one-hour flow through one-quarter or one-half inch choke and multiplied by 24.

ALABAMA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Houston ...	0	0	0	0	0	1	1

MISSISSIPPI

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Hinds	0	0	0	0	0	2	2
LaFayette .	0	0	0	0	0	1	1
Bolivar ...	0	0	0	0	0	1	1
Washington.	0	0	0	0	0	1	1
Lauderdale..	0	0	0	0	0	1	1
Simpson ...	0	0	0	0	1	0	1
Claiborne ..	0	0	0	0	0	1	1
Jones	0	0	0	0	0	1	1
Grenada ...	0	0	0	0	1	0	1
Lamar	0	0	0	0	0	2	2
Harrison ...	0	0	0	0	0	1	1
Yalobusha .	0	0	0	0	1	0	1
Wilkinson .	0	0	0	0	0	1	1
Kemper	0	0	0	0	1	0	1
Perry	1	0	1	0	1	0	1
Total Nov.	1	0	1	0	5	12	17
Total Oct.	3	0	1	2	4	13	17
Difference	2	0	0	2	1	1	0

FLORIDA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Lake	0	0	0	0	0	2	2
Nassau	0	0	0	0	0	1	1
Hillsborough	0	0	0	0	0	1	1
Total Nov.	0	0	0	0	0	4	4
Total Oct.	0	0	0	0	0	4	4
Difference	0	0	0	0	0	0	0

ROCKY MOUNTAIN AREA

Montana

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Big Horn ..	2	0	0	2	0	1	1
Carbon	1	0	1	0	0	2	2
Fallon	0	0	0	0	0	2	2
Fergus	0	0	0	0	0	5	5
Glacier	6	371	0	1	0	15	15
Liberty	1	0	0	1	0	1	1
Petroleum .	1	12	0	0	0	1	1
Phillips	5	0	0	5	0	3	3
Pondera	0	0	0	0	1	3	4
Toole	8	113	2	1	0	13	13
Yellowstone.	1	0	0	1	0	1	1
Miscellaneous	0	0	0	0	0	8	8
Total Nov.	25	496	3	11	1	55	56
Total Oct.	25	1,393	7	4	2	64	66
Difference	0	897	4	7	3	9	10

Utah

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Daggett ...	1	0	0	1	0	0	0
Miscellaneous	0	0	0	0	0	7	7
Total Nov.	1	0	0	1	0	7	7
Total Oct.	0	0	0	0	0	8	8
Difference	1	0	0	1	0	1	1

Nebraska

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Total Nov...	0	0	0	0	0	5	5
Total Oct...	1	0	1	0	0	4	4
Difference	1	0	1	0	0	1	1

Wyoming

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Albany	1	70	0	0	1	3	4
Big Horn ..	1	500	0	0	0	12	12
Carbon	2	872	0	1	0	4	4
Converse ...	1	6	0	1	0	3	3
Fremont ...	0	0	0	0	0	3	3
Lincoln	0	0	0	0	0	3	3
Niobrara ...	1	1,608	0	0	2	12	14
Park	0	0	0	0	0	2	2
Sublette ...	2	37	1	0	0	1	1
Sweetwater.	0	0	0	0	0	1	1
Uinta	0	0	0	0	0	3	3
Washakie ..	3	316	0	0	1	5	6
Weston	3	20	2	0	0	2	2
Miscellaneous	0	0	0	0	0	7	7
Total Nov.	14	3,423	3	2	4	61	65
Total Oct.	13	6,075	2	2	6	67	73
Difference	1	2,652	1	0	2	6	8

Colorado

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Adams	0	0	0	0	0	2	2
Archuleta ..	0	0	0	0	0	8	8
Baca	1	0	1	0	0	0	0
Boulder	0	0	0	0	0	1	1
Kiowa	0	0	0	0	0	1	1
La Plata ...	0	0	0	0	0	2	2
Larimer ...	0	0	0	0	0	2	2
Moffat	1	1,500	0	0	1	1	2
Park	0	0	0	0	0	3	3
Washington.	1	0	1	0	0	0	0
Weld	0	0	0	0	0	1	1
Miscellaneous	0	0	0	0	1	12	13
Total Nov.	3	1,500	2	0	2	33	35
Total Oct.	2	3	0	1	3	34	37
Difference	1	1,497	2	1	1	2	2

New Mexico

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Bernalillo ..	0	0	0	0	0	2	2
McKinley ..	0	0	0	0	0	8	8
Santa Fe ..	0	0	0	0	0	2	2
San Juan ..	1	58	0	0	0	5	5
San Miguel.	0	0	0	0	0	3	3
Torrance ..	1	0	1	0	0	0	0
Valencia ...	0	0	0	0	0	2	2
Lea	41	30,862	1	0	14	89	103
Eddy	1	70	0	0	0	10	10
Harding ...	0	0	0	0	0	2	2
DeBaca	0	0	0	0	0	1	1
Roosevelt ..	0	0	0	0	0	3	3
Union	0	0	0	0	0	1	1
Total Nov.	44	30,990	2	0	14	128	142
Total Oct.	47	37,897	1	4	9	113	122
Difference	3	6,907	1	4	5	15	20

KENTUCKY FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Henderson..	2	18	0	0	2	2	4
McLean ..	22	516	5	0	10	24	34
Ohio	9	142	3	1	8	16	24
Wayne ...	0	0	0	0	3	2	5
Ttl. Nov.	33	676	8	1	23	44	67
Ttl. Oct..	37	6,103	6	0	23	51	74
Difference	4	5,427	2	1	0	7	7

ILLINOIS FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Wayne	0	0	0	0	0	2	2
Clay	0	0	0	0	0	1	1
Clinton ...	1	0	1	0	0	2	2
Marion ...	0	0	0	0	0	1	1
Jackson ...	0	0	0	0	0	1	1
Perry	0	0	0	0	0	1	1
Washingt'n	0	0	0	0	0	2	2
Ttl. Nov.	1	0	1	0	0	10	10
Ttl. Oct..	3	225	0	0	3	5	8
Difference	2	225	1	0	3	5	2

LIMA FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Allen	0	0	0	0	0	1	1
Darke	0	0	0	0	0	1	1
Hancock ..	1	0	0	1	1	6	7
Hardin	0	0	0	0	0	3	3
Logan	1	0	0	1	0	1	1
Putnam ..	1	3	0	0	1	2	3
Sandusky .	0	0	0	0	0	1	1
Seneca	4	0	1	3	2	5	7
Wood	1	0	1	0	2	3	5
Wyandot .	2	62	0	0	2	2	4
Ttl. Nov.	10	65	2	5	8	25	33
Ttl. Oct..	8	59	1	3	2	27	29
Difference	2	6	1	2	6	2	4

INDIANA FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Daviess ...	6	0	0	0	2	4	6
Decatur ...	2	0	0	2	1	2	3
Gibson ...	0	0	0	0	0	2	2
Jay	1	0	0	1	0	1	1
Johnson ...	0	0	0	0	0	1	1
Hancock ..	0	0	0	0	0	1	1
Harrison ..	0	0	0	0	0	1	1
Knox	3	0	2	1	0	3	3
Perry	2	0	2	0	1	3	4
Pike	3	0	1	2	1	2	3
Vigo	0	0	0	0	0	2	2
Posey	0	0	0	0	0	1	1
Randolph .	0	0	0	0	0	1	1
Ripley	0	0	0	0	0	1	1
Spencer ..	0	0	0	0	0	2	2
Vender-burgh ..	3	45	1	0	0	2	2
Ttl. Nov.	14	45	6	6	5	29	34
Ttl. Oct..	13	10	7	4	5	34	39
Difference	1	35	2	2	0	5	5

CENTRAL OHIO FIELD

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Ashland ..	6	0	2	4	5	4	9
Athens ...	15	19	3	10	3	16	19
Coshocton .	3	60	0	2	2	4	6
Cuyahoga .	2	0	1	1	1	4	5
Delaware .	0	0	0	0	0	1	1
Fairfield ..	2	4	0	1	1	3	4
Gallia	0	0	0	0	1	1	2
Harrison ..	0	0	0	0	0	1	1
Hocking ..	1	0	0	1	2	4	6
Holmes ...	5	0	3	2	3	9	12
Huron	2	0	0	2	0	2	2
Knox	10	42	4	4	3	8	11
Lawrence .	1	0	0	1	0	0	0
Lorain ...	5	0	1	4	5	6	11
Licking ..	11	268	1	0	5	7	12
Medina	5	0	1	4	5	8	13
Meigs	14	0	6	8	7	15	22
Morgan ...	5	2	3	1	1	11	12
Perry	7	130	1	5	5	7	12
Portage ...	0	0	0	0	0	1	1
Richland .	1	0	0	1	2	2	4
Stark	5	0	0	5	5	14	19
Summit ...	2	0	0	2	2	3	5
Tuscara-was	4	0	1	3	2	4	6
Vinton	1	1	0	0	2	3	5
Wayne ...	4	0	2	2	5	5	10
Ttl. Nov.	111	526	29	63	67	143	210
Ttl. Oct..	58	152	14	38	34	80	114
Difference	53	374	15	25	33	63	96

PENNSYLVANIA GRADE FIELDS

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rgs.	Dlg.	Ttl.
Bradford ..	164	211	0	0	13	75	88
Allegany ..	85	70	0	0	8	48	56
N.Y.-Penna Gas	6	0	3	3	1	16	17
Venango-Clarion ..	38	48	3	0	6	15	21
Butler-Armstrong	9	21	1	1	4	9	13
SW Penna. .	9	12	0	7	14	42	56
SE Ohio ...	59	532	13	16	13	75	88
W. Virginia	74	26	13	55	37	172	209
Ttl. Nov.	444	920	33	82	96	452	548
Ttl. Oct.	456	1,216	33	56	100	423	522
Difference	12	296	0	26	4	29	25

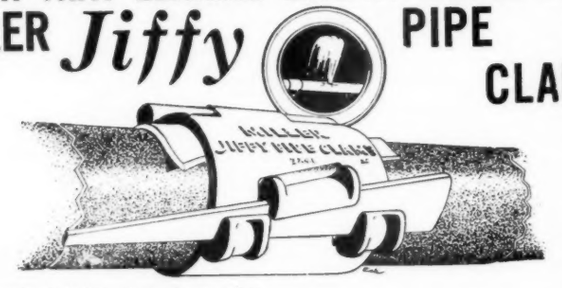
MICHIGAN

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Alcona	0	0	0	0	1	0	1
Allegan	0	0	0	0	0	1	1
Alpena	0	0	0	0	1	0	1
Arenac	2	1,000	1	0	3	2	5
Bay	0	0	0	0	1	0	1
Chippewa ..	0	0	0	0	0	1	1
Clare	0	0	0	0	1	3	4
Clinton	2	0	2	0	0	2	2
Gladwin ...	1	0	1	0	3	9	12
Gratiot	5	0	3	2	5	8	13
Hillsdale ..	0	0	0	0	0	1	1
Ingham ...	0	0	0	0	2	0	2
Ionia	1	0	1	0	0	1	1
Iosco	1	0	1	0	0	0	0
Isabella ...	5	50	4	0	8	23	31
Kent	0	0	0	0	1	0	1
Lapeer	1	0	1	0	1	1	2
Lenawee ...	0	0	0	0	2	1	3
Livingston .	0	0	0	0	1	1	2
Machinac ..	0	0	0	0	0	1	1
Macomb ...	0	0	0	0	0	1	1
Manistee ..	0	0	0	0	0	1	1
Mason	1	0	1	0	1	0	1
Mecosta ...	4	0	2	3	4	5	9
Midland ...	12	1,835	3	0	8	10	18
Missaukee .	0	0	0	0	0	1	1
Monroe	1	65	0	0	1	3	4
Montcalm .	10	85	4	4	12	14	26
Muskegon .	3	0	1	2	2	1	3
Newaygo ..	0	0	0	0	1	0	1
Oceana	0	0	0	0	2	1	3
Ogemaw ...	6	886	0	0	6	18	24
Osceola	0	0	0	0	1	1	2
Otsego	0	0	0	0	0	1	1
Roscommon.	0	0	0	0	0	2	2
Saginaw ...	1	0	1	0	2	3	5
St. Clair ...	0	0	0	0	2	1	3
St. Joseph .	0	0	0	0	1	0	1
Shiawassee..	1	0	1	0	1	0	1
Wayne	0	0	0	0	0	1	1
Total Nov.	57	3,921	27	11	74	119	193
Total Oct.	60	6,693	11	22	71	132	203
Difference	3	2,772	16	11	3	13	10

REPAIR THAT LEAKING LINE AT SMALL COST

MILLER *Jiffy* PIPE CLAMP



JIFFY PIPE CLAMPS of simple two-piece hinged construction quickly and effectually stop leaks in water, gas, oil or steam lines. Use any old piece of inner tube or belting for a gasket, clamp on the JIFFY, drive the wedge home and the job is done.

Made of malleable iron of many times the strength needed, JIFFY Pipe Clamps can be used for either temporary or permanent repairs, and when used as a temporary repair the JIFFY Clamps can be used again and again without replacing any new parts.

KEEP ASSORTED SIZES ON HAND FOR EMERGENCIES.

Size of pipe	2-inch		3-inch	4-inch
Length of clamp	4-in.	8-in.	6-inch	6-inch
Price each	$1.00	$1.75	$2.00	$2.40

Order through your supply store or direct—we pay shipping charges on orders of one dozen or more clamps.

MANUFACTURED BY THE MAKERS OF THE MILLER SAND PUMP

MILLER SAND PUMP CO.

General Offices and Shop, Box 4516

OKLAHOMA CITY, OKLAHOMA

Branch Shops and Offices Sapulpa, Oklahoma, and Kilgore, Texas.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Associated Oil Co., No. 1 Capitan, Santa Barbara Co...	2- 4-30	2,450	gr. sd. drlg.
Barnsdall-Rio Grande, No. 2 Elwood, Santa Barbara	15- 4-29	6,492	P.B. 2,711
Bush Oil Co., No. 3 Santa Maria, Santa Barbara Co. ..	30-10-33	4,954	br. sh. drlg.
Field Gasoline Corp., No. 1 Santa Maria, Santa Barbara	21- 9-33	5,121	idle
Shaffer, W. D., No. 1 Santa Maria, Santa Barbara Co.	9- 9-33	1,540	sd. sh. drlg.
Apache Oil Co., No. 1 Santa Maria, Santa Barbara Co.	31- 9-33	4,360	bailing
Echo Oil Co., No. 1 Santa Maria, Santa Barbara Co. ..	23-10-34	2,965	sd. sh. drlg.
Union Oil Co., No. 11 Santa Maria, Santa Barbara Co.	25-10-34	4,211	flow, 1,790 b.d.
Union Oil Co., No. 16 Orcutt, Santa Barbara Co.	26- 9-34	3,751	br. sh. drlg.
Todos Santos Oil Co., No. 1 Casmalia, Santa Barbara	29- 9-34	2,364	bailing
101 Oil Co., No. 1 Pt. Concepcion, Santa Barbara Co...	35- 5-33	246	cleaning out
Barnsdall Oil Co., No. 2 Los Alamos, Santa Barbara Co.	9- 8-32	2,500	reaming
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co. ..	25-10-35	8,021	reamer stuck
Rio Grande Oil Co., No. 6 Mesa, Santa Barbara Co. ...	28- 4-27	2,094	pump. 20 b.d.
Dietzman, J., No. 1 Carpenteria, Santa Barbara Co...	8- 4-25	1,025	rigged up
Fisher, Dan, No. 1 Cuyama, Santa Barbara Co.	28-11-28	631	sd. sh. drlg.
Union Oil Co., No. 10 Bardsdale, Ventura Co.	12- 3-20	6,561	pump. 200 b.d.
Merchants Pet. Co., No. 7 Sespe, Ventura Co.	1- 4-20	321	hd. sd. drlg.
Petroleum Securities, No. 4 Shiells, Ventura Co.	3- 3-19	3,236	cmtd. 3,185
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,435	sd. sh. drlg.
Topa Topa Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	3,200	sd. sh. drlg.
Speik Oil Co., No. 2 Sespe, Ventura Co.	33- 5-19	1,360	hd. sh. drlg.
Oil Ridge Oil Co., No. 1 Hopper Canyon, Ventura Co.	6- 4-18	2,772	pump. water
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co.	4- 4-18	4,220	sd. sh. drlg.
Pacific Western Oil Co., No. 7 Temescal, Ventura Co.	4- 4-18	1,600	hd. sh. drlg.
Associated Oil Co., No. 1 Wiley Canyon, Ventura Co.	6- 3-18	2,543	hd. sd. drlg.
Munding, J. J., No. 1 Ojai, Ventura Co.	22- 4-22	1,087	br. sh. drlg.
Vaca Oil Co., No. 1 Oxnard, Ventura Co.	6- 1-21	2,822	cleaning out
Continental Oil Co., No. 1 Red Mountain, Ventura Co.	7- 3-23	2,997	hd. sd. drlg.
General Pet. Corp., No. 1 Padre Canyon, Ventura Co. ..	15- 3-24	4,917	rig. to pump
C. C. M. Oil Co., No. 2 Padre Canyon, Ventura Co. ...	23- 3-24	5,020	sd. sh. drlg.
Honolulu Oil Corp., No. 1 South Mountain, Ventura Co.	23- 3-21	5,263	gr. sd. drlg.
Calco Pet. Corp., No. 4 South Mountain, Ventura Co...	17- 3-20	2,636	reaming
Associated Oil Co., No. 27 Hartman, Ventura Co.	22- 3-23	4,175	hd. sd. drlg.
Associated Oil Co., No. 12 McGonigle, Ventura Co. ...	23- 3-23	10,010	hd. sd. drlg.
Associated Oil Co., No. 78 Lloyd Ventura, Ventura Co.	27- 3-23	4,396	sd. sh. drlg.
Shell Oil Co., No. 89 Taylor Ventura, Ventura Co.	30- 3-23	1,953	sd. sh. drlg.
General Pet. Corp., No. 17 Barnard Ventura, Ventura	23- 3-23	5,183	hd. sd. drlg.
Continental Oil Co., No. 6 San Miguelito, Ventura Co.	24- 3-24	1,191	sd. sh. drlg.
Den Petroleum Co., No. 1 Devils Den, Kern Co.	20-25-19	1,360	idle
Long, H. C., No. 1 Devils Den, Kern Co.	20-25-19	921	sd. sh. drlg.
Lube Oil Co., No. 1 Devils Den, Kern Co.	2-25-18	316	cmtd. 275
Standard Oil Co., No. 2 Lost Hills, Kern Co.	2-26-20	1,850	sd. sh. drlg.
Texas Co., No. 1 Lost Hills, Kern Co.	11-26-20	1,958	pump. water
Welport Oil Co., No. 16 McKittrick, Kern Co.	26-29-21	974	sd. sh. drlg.
Woodward, Hoke, No. 6 McKittrick, Kern Co.	11-30-21	1,317	P.B. 1,167
Bergman, H. L., No. 1 McKittrick, Kern Co.	30-30-22	2,013	P.B. 1,690
Bergman, H. L., No. 2 McKittrick, Kern Co.	32-29-22	998	sd. sh. drlg.
Continental Oil Co., No. 1 Wasco, Kern Co.	8-27-24	6,503	redrlg. 4,872
Associated Oil Co., No. 5 North Belridge, Kern Co. ..	34-27-20	9,027	flow, 2,160 b.d.
Belridge Oil Co., No. 12-1 North Belridge, Kern Co..	1-28-20	7,373	br. sh. drlg.
Belridge Oil Co., No. 14-35 North Belridge, Kern Co.	35-27-20	4,460	sd. sh. drlg.
Belridge Oil Co., No. 15-35 North Belridge, Kern Co.	35-27-20	7,182	hd. sd. drlg.
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	8,510	sd. sh. drlg.
Milburn, E. B., No. 1 Kern Front, Kern Co.	10-28-27	1,998	sd. sh. drlg.
National Oil Co., No. 5 Grau, Kern Front, Kern Co. ...	11-28-27	1,838	P.B. 1,715
National Oil Co., No. 4 Provident, Kern Front, Kern	11-28-27	1,848	pump. 160 b.d.
Honolulu Oil Corp., No. 79 Kern Front, Kern Co.	8-28-27	2,753	sd. sh. drlg.
American Expl. Co., No. 2 Kern Front, Kern Co.	16-28-27	2,868	pump. test
Bishop Oil Co., No. 10 Kern Front, Kern Co.	23-28-27	1,996	pump. 210 b.d.
Seskayden Oil Co., No. 2 Kern Front, Kern Co.	17-28-27	2,920	O.S. drlg.
Italo Pet. Corp., No. 35 Cauley, Kern Front, Kern Co.	16-28-27	2,848	redrlg. 2,005
General Pet. Corp., No. 15 Wetmore, Kern Front, Kern	14-28-27	2,017	rig. to pump
Hope Oil Co., No. 1 Kern River, Kern Co.	8-29-28	1,630	sd. sh. drlg.
Associated Oil Co., No. 11 Reed, Kern River, Kern Co.	34-28-28	674	bail. 5 b.d.
Bell Corp., No. 3 McVan, Kern Co.	14-27-27	1,360	pump. 40 b.d.
Roscoe & Stanley, No. 1 Premier, Kern Co.	29-27-27	1,153	sd. sh. drlg.
Ring Oil Co., No. 1 Dominion, Kern Co.	28-26-28	1,522	pump. 85 b.d.
Texas Co., No. 11 Vedder, Mount Poso, Kern Co.	4-27-28	1,600	sd. sh. drlg.
Petroleum Securities, No. 2 Mount Poso, Kern Co. ...	34-27-28	1,670	bailing
C. C. M. Oil Co., No. 3 Dorsey, Mount Poso, Kern Co. ..	26-27-28	1,520	rig. to pump
Cal-Coast-Apex Oil Co., No. 1 Mount Poso, Kern Co.	36-26-27	2,653	gr. sd. drlg.
Doyle Pet. Co., No. 1 Jasmine, Kern Co.	15-25-27	2,882	cleaning out
Kelly, Paul, No. 1 Fruitvale, Kern Co.	23-29-27	1,652	sd. sh. drlg.
Western Gulf Oil Co., No. 34 Fruitvale, Kern Co.	22-29-27	4,252	gr. sd. drlg.
Western Gulf Oil Co., No. 35 Fruitvale, Kern Co.	21-29-27	4,583	gr. sd. drlg.
Bilgrad Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,121	rig. to pump
Omar Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,164	cleaning out
Linderman Oil Corp., No. 1 Fruitvale, Kern Co.	28-29-27	4,333	cleaning out
Tarr & McComb, No. 4 Fruitvale, Kern Co.	23-29-27	3,179	cmtd. 3,118
Stanford Oil Co., No. 1 Fruitvale, Kern Co.	28-29-27	784	sd. sh. drlg.
Trico Oil & Gas Co., No. 1 Mountain View, Kern Co. ..	13-30-28	5,000	sd. sh. drlg.
Hogan Pet. Co., No. 2 Peters, Mountain View, Kern Co.	5-31-29	6,168	fish. liner
Hogan Pet. Co., No. 2 Symons, Mountain View, Kern	4-31-29	5,965	O.S. drlg.
Hogan Pet. Co., No. 9 Porter, Mountain View, Kern Co.	20-30-29	6,074	O.S. drlg.
Standard Oil Co., No. 3 C. L., Mountain View, Kern Co.	13-30-28	4,312	sd. sh. drlg.
Hancock Oil Co., No. 10 Mountain View, Kern Co.	14-30-28	5,123	cmtd. 4,991
Mid-State Oil Co., No. 1 Mountain View, Kern Co.	19-30-29	4,685	flow. 195 b.d.
Mohawk Pet. Co., No. 3 Hood, Mountain View, Kern	30-30-29	7,760	deep test
Wood-Callahan Oil Co., No. 2 Mountain View, Kern Co.	24-30-28	5,120	O.S. drlg.
Berry Holding Co., No. 4 Edison, Kern Co.	10-30-29	1,823	O.S. drlg.
East Edison Oil Co., No. 2 Edison, Kern Co.	23-30-30	1,035	bailing
Mohawk Pet. Co., No. 2 Earl, Arvin, Kern Co.	10-31-29	6,166	C.P. 6,100
General Pet. Corp., No. 1 Arvin, Kern Co.	26-31-29	7,462	will test
Shell Oil Co., No. 1 Arvin, Kern Co.	15-31-29	6,171	prod. test
Arkelo Oil Co., No. 1 Lerdo, Kern Co.	23-28-26	6,621	sd. sh. drlg.
Associated Oil Co., No. 1 Rio Bravo, Kern Co.	30-29-25	7,683	cleaning out
Standard Oil Co., No. 11-1 Rio Bravo, Kern Co.	19-29-26	7,807	cleaning out
Shamrock Oil Co., No. 6 Round Mountain, Kern Co.	6-28-29	1,280	sd. sh. drlg.
C. C. M. Oil Co., No. 7 Round Mountain, Kern Co.	6-28-29	722	sd. sh. drlg.
California Western Oil, No. 18 Round Mountain, Kern	7-28-29	1,627	P.B. 1,490
Trans-Line Oil Co., No. 1 San Emidio, Kern Co.	3-10-23	961	hd. sh. drlg.
Bender, E. A., No. 1 San Emidio, Kern Co.	14-10-20	1,236	P.B. 900
Standard Oil Co., No. 9-1 Ten Section, Kern Co.	34-30-26	8,336	sd. sh. drlg.
Standard Oil Co., No. 10-1 Ten Section, Kern Co.	20-30-26	8,740	gr. sh. drlg.
Shell Oil Co., No. 34 Ten Section, Kern Co.	29-30-26	5,796	sd. sh. drlg.
Superior Oil Co., No. 8 Ten Section, Kern Co.	11-30-26	7,865	gr. sh. drlg.
British-American, Inc., No. 1 Ten Section, Kern Co. ...	21-31-27	156	cmtd. 155
C. C. M. Oil Co., No. 24-21 Midway-Sunset, Kern Co.	21-32-23	2,330	O.S. drlg.
C. C. M. Oil Co., No. 25-21 Midway-Sunset, Kern Co.	21-32-23	1,321	sd. sh. drlg.
C. C. M. Oil Co., No. 1-J Midway-Sunset, Kern Co. ...	21-32-23	1,810	br. sh. drlg.
Twentieth Century Oil Co., No. 1 Midway-Sunset, Kern	1-11-24	3,069	sd. sh. drlg.
Herry Oil Co., No. 23 Midway-Sunset, Kern Co.	28-12-24	1,187	br. sh. drlg.
Associated Oil Co., No. 61-A Midway-Sunset, Kern Co.	35-31-22	1,152	sd. sh. drlg.
Standard Oil Co., No. 28-3-D Midway-Sunset, Kern Co.	3-32-23	2,854	sd. sh. drlg.
Goldman, Frank, No. 4 Midway-Sunset, Kern Co.	22-32-23	2,050	br. sh. drlg.
McGray, Robert, No. 1 Midway-Sunset, Kern Co.	22-32-23	1,171	idle
McGray, Robert, No. 2 Midway-Sunset, Kern Co.	22-32-23	594	sd. sh. drlg.
Five Points Oil Co., No. 2-2 Midway-Sunset, Kern Co.	18-11-23	1,090	cleaning out
Five Points Oil Co., No. 2-3 Midway-Sunset, Kern Co.	18-11-23	938	O.S. drlg.
Dunlap, D. D., No. 1 Midway-Sunset, Kern Co.	15-32-23	2,778	bailing
Texas Co., No. 17 Midway-Sunset, Kern Co.	32-32-24	2,753	sd. sh. drlg.
Union Oil Co., No. 3 Williams Midway-Sunset, Kern Co.	22-32-23	1,710	sd. sh. drlg.
Union Oil Co., No. 4 Keene Midway-Sunset, Kern Co.	22-32-23	560	sd. sh. drlg.
Birch-Ranch Oil Co., No. 1 Midway-Sunset, Kern Co.	22-32-23	2,142	P.B. 2,094
North American, No. 4 Midway-Sunset, Kern Co.	2-32-24	4,062	pump. 110 b.d.
Honolulu Oil Corp., No. 6 Midway-Sunset, Kern Co. ...	14-32-24	3,510	pump. 285 b.d.
Honolulu Oil Corp., No. 16 Midway-Sunset, Kern Co. ..	14-32-24	3,430	bailing
St. Helens Pet. Co., No. 1 Midway-Sunset, Kern Co...	22-32-24	3,730	testing
Reserve Oil & Gas Co., No. 33-1 Tejon, Kern Co.	33-11-19	6,032	P.B. 4,989
Reserve Oil & Gas Co., No. 33-2 Tejon, Kern Co.	33-11-19	4,518	redrlg. 4,495
Reserve Oil & Gas Co., No. 33-3 Tejon, Kern Co.	33-11-19	1,950	sd. sh. drlg.
Hall-Baker Co., No. 1-10 Tejon, Kern Co.	12-11-19	2,127	sd. sh. drlg.
Ohio Oil Co., No. 2 Tejon, Kern Co.	21-11-19	5,763	sd. sh. drlg.
Buffalo Oil Co., No. 1 Tejon, Kern Co.	5-10-19	592	sd. sh. drlg.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	8,527	redrlg. 7,852
Mohawk Pet. Co., No. 1 Cantua, Fresno Co.	30-16-15	6,170	sd. sh. drlg.
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	9,111	hd. sd. drlg.
K. N. D. A., No. 25-20-J Kettleman North, Fresno Co.	20-21-17	7,490	br. sh. drlg.
K. N. D. A., No. 21-30-J Kettleman North, Fresno Co.	30-21-17	8,849	fishing
K. N. D. A., No. 52-30-J Kettleman North, Fresno Co.	30-21-17	8,360	hd. sd. drlg.
K. N. D. A., No. 58-28-J Kettleman North, Fresno Co.	28-21-17	8,053	hd. sd. drlg.
K. N. D. A., No. 63-28-J Kettleman North, Fresno Co.	28-21-17	8,480	fish. D.P.
K. N. D. A., No. 83-24-H Kettleman North, Fresno Co.	24-21-16	8,935	P.B. 8,882
K. N. D. A., No. 81-32-J Kettleman North, Fresno Co.	32-21-17	6,897	hd. sd. drlg.
K. N. D. A., No. 85-32-J Kettleman North, Fresno Co.	32-21-17	7,460	hd. sd. drlg.
K. N. D. A., No. 52-34-J Kettleman North, Fresno Co.	34-21-17	7,919	reaming
K. N. D. A., No. 72-34-J Kettleman North, Fresno Co.	34-21-17	8,150	swabbing
K. N. D. A., No. 47-2-P Kettleman North, Kings Co.	2-22-17	7,120	reaming
Standard Oil Co., No. 32-19-J Kettleman North, Fresno	19-21-17	8,836	fish. D.P.
Standard Oil Co., No. 8-19-J Kettleman North, Fresno	19-21-17	4,388	sd. sh. drlg.
Standard Oil Co., No. 72-19-J Kettleman North, Fresno	19-21-17	8,820	completing
Standard Oil Co., No. 85-19-J Kettleman North, Fresno	19-21-17	7,095	sd. sh. drlg.
Standard Oil Co., No. 46-13-H Kettleman North, Fresno	13-21-16	9,065	hd. sd. drlg.
Standard Oil Co., No. 54-1-U Kettleman North, Kings	1-23-19	9,675	P.B. 8,260
Standard Oil Co., No. 48-35-J Kettleman North, Kings	35-21-17	8,010	cleaning out
Standard Oil Co., No. 46-19-V Kettleman Middle, Kings	19-23-19	7,778	hd. sd. drlg.
Kettleman View Oil Co., Well No. 1, Kings Co.	29-22-19	4,791	idle
McBurney Oil Co., No. 1 Carriso, San Luis Obispo Co.	23-32-22	2,150	bailing water
Foster, R. A., No. 1 Carriso, San Luis Obispo Co.	2-32-22	5,000	cleaning out

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporary abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Jergins Trust, No. 1 Indian Knob, San Luis Obispo Co.	26-31-12	1,260	sd. sh. drlg.
Calif. Producing Co., No. 1 Pattiway, San Luis Obispo	19-10-24	751	sd. sh. drlg.
Union Oil Co., No. 1 Huasna, San Luis Obispo Co. ...	22-32-15	3,615	br. sh. drlg.
Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,310	will deepen
Martin, J. D., No. 4 Pismo, San Luis Obispo Co.	5-32-13	3,262	cleaning out
Martin, J. D., No. 5 Pismo, San Luis Obispo Co.	5-32-13	3,250	rig. to pump
Mayes, Archie, No. 1 Pismo, San Luis Obispo Co.	3-11-35	....	rigging up
Cholame Synd., No. 1 Cholame, San Luis Obispo Co. ..	10-25-15	3,687	C.P. 3,300
Shell Oil Co., No. 1 Pleyto, Monterey Co.	34-24-10	8,994	P.B. 8,750
Shell Oil Co., No. 2 Pleyto, Monterey Co.	34-24-10	5,125	sd. sh. drlg.
Texas Co., No. 2 Eureka, Humboldt Co.	22- 3-1	6,591	sd. sh. drlg.
Amerada Pet. Co., No. 3 Rio Vista, Solano Co.	26- 4-2	6,370	sd. sh. drlg.
Associated Oil Co., No. 1 Sargent, San Benito Co. ...	5-12-4	4,788	fish. D.P.
Seaboard Oil Co., No. 1 Alameda, Alameda Co.	13- 3-3	5,925	dry; abd.
Standard Oil Co., No. 4 McDonald Island, San Joaquin	19- 2-5	5,465	redrlg. 5,430
Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co.	2-15-1	3,165	gr. sd. drlg.
Jennings, E. P., No. 1 Allensworth, Tulare Co.	4-24-23	2,501	bl. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Standard Oil Co., No. 1 Alondra, Los Angeles Co.	22- 3-14	7,742	hd. sh. drlg.
Richfield Oil Co., No. 1 El Segundo, Los Angeles Co...	18- 3-14	7,435	flow, 2,500 b.d.
Signal Finance, No. 1 Hawthorne, Los Angeles Co. ...	10- 3-14	9,395	cleaning out
Listle, J. I., No. 1 Moneta, Los Angeles Co.	33- 3-14	7,352	fishing
C. C. M. Oil Co., No. 2 Torrance, Los Angeles Co.	31- 3-14	4,389	P.B. 3,154
Southwest Pet. Co., No. 1 Torrance, Los Angeles Co.	6- 4-14	3,605	pump. 40 b.d.
Black Gold Corp., No. 2 Torrance, Los Angeles Co. ...	6- 4-14	3,505	O.S. drlg.
Nelson Pet. Co., No. 2 Torrance, Los Angeles Co.	18- 4-14	2,760	sd. sh. drlg.
Dumas-Lewis Oil Co., No. 3 Torrance, Los Angeles Co.	6- 4-14	3,638	pump. 260 b.d.
Keystone Consd. Oil Co., No. 1 Redondo, Los Angeles	8- 4-14	3,100	sd. sh. drlg.
Standard Oil Co., No. 81 Inglewood, Los Angeles Co. ..	8- 2-14	2,728	sd. sh. drlg.
Universal Consd., No. 1 Gardena, Los Angeles Co.	36- 3-14	5,542	sd. sh. drlg.
West American, No. 1 Gardena, Los Angeles Co.	5- 4-13	6,861	dry; abd.
Shell Oil Co., No. 66 Reyes, Dominguez, Los Angeles Co.	33- 3-13	4,728	sd. sh. drlg.
Shell Oil Co., No. 87 Reyes, Dominguez, Los Angeles Co.	33- 3-13	7,011	sd. sh. drlg.
Shell Oil Co., No. 88 Reyes, Dominguez, Los Angeles Co.	33- 3-13	3,585	sd. sh. drlg.
Union Oil, No. 42 Callender, Dominguez, Los Angeles	33- 3-13	7,185	sd. sh. drlg.
Union Oil, No. 48 Callender, Dominguez, Los Angeles	33- 3-13	4,630	sd. sh. drlg.
Union Oil, No. 50 Callender, Dominguez, Los Angeles	33- 3-13	8,447	sd. sh. drlg.
Union Oil, No. 42 Hellman, Dominguez, Los Angeles	33- 3-13	7,165	sd. sh. drlg.
Barnsdall Oil Co., No. 10 Rosecrans, Los Angeles Co.	20- 3-13	5,997	hd. sd. drlg.
Shell Oil Co., No. 1 Rosecrans, Los Angeles Co.	20- 3-13	2,992	sd. sh. drlg.
Calizoo Oil Co., No. 1 Compton, Los Angeles Co.	16- 3-13	3,985	hd. sh. drlg.
Eastern Oil Co., No. 1 Playa Del Rey, Los Angeles Co.	22- 2-15	7,562	rig. to pump
Sharby Oil Co., No. 1 Playa Del Rey, Los Angeles Co.	22- 2-15	7,298	sd. sh. drlg.
Union Oil Co., No. 15 D.R., Playa Del Rey, Los Angeles	27- 2-15	5,698	sd. sh. drlg.
Superior Oil Co., No. 1 Del Rey, Los Angeles Co.	25- 2-15	9,241	sd. sh. drlg.
Holbrook Pet. Co., No. 1 Newhall, Los Angeles Co. ..	28- 4-16	4,020	idle
Barnsdall Oil Co., No. 1 Newhall, Los Angeles Co. ...	26- 4-17	5,564	sd. sh. drlg.
Republic Pet. Co., No. 1 Ascot Park, Los Angeles Co.	24- 1-13	1,573	idle
Sunset Oil Co., No. 1 Wilmington, Los Angeles Co. ...	28- 4-13	3,640	rig. to pump
Selegna Oil Co., No. 1 Wilmington, Los Angeles Co. ...	28- 4-13	3,503	O.S. drlg.
General Pet. Corp., No. 1 Wilmington, Los Angeles Co.	4- 5-13	3,648	flow, 1,200 b.d.
General Pet. Corp., No. 2 Wilmington, Los Angeles Co.	5- 5-13	2,839	sd. sh. drlg.
Standard Oil Co., No. 90 Montebello, Los Angeles Co.	1- 2-12	3,100	pump. 58 b.d.
Richfield Oil Co., No. 2 Nutt, Montebello, Los Angeles	5- 2-11	4,481	sd. sh. drlg.
Hathaway, No. 2 Fulton, Santa Fe Springs, Los Angeles	6- 3-11	4,650	cleaning out
Union Oil Co., No. 100 Santa Fe Springs, Los Angeles	6- 3-11	7,427	cmtd. 7,427
Sibert Oil Co., No. 1 Santa Fe Springs, Los Angeles Co.	31- 2-4	4,802	redrlg. 4,450
Julian & Criswell, No. 1 Walnut, Los Angeles Co.	5- 2-9	1,350	sd. sh. drlg.
Drillers, Inc., No. 1 Whittier, Los Angeles Co.	22- 2-11	761	sd. sh. drlg.
Associated Oil Co., No. 4 Huntington, Orange Co.	34- 5-11	4,250	pump. 118 b.d.
Re-Mine Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	5,738	pump. 25 b.d.
W. C. W. Oil Co., No. 2 Huntington, Orange Co.	34- 5-11	4,327	cleaning out
Kohlbush, H. S., No. 1 Huntington, Orange Co.	34- 5-11	4,365	O.S. drlg.
Dunlap, D. D., No. 4 Huntington, Orange Co.	2- 6-11	3,252	sd. sh. drlg.
Terry, George, No. 2 Crane, Huntington, Orange Co. ..	2- 6-11	2,000	cleaning out
Vicaroo Oil Co., No. 1-A Huntington, Orange Co.	12- 6-11	5,171	flow, 580 b.d.
Petroleum Co., No. 4 Huntington, Orange Co.	2- 6-11	3,160	sd. sh. drlg.
Car-Fad Oil Co., No. 2 Huntington, Orange Co.	2- 6-11	2,760	sd. sh. drlg.
Hammil Oil Co., No. 2 Huntington, Orange Co.	34- 5-11	4,350	sd. sh. drlg.
South Basin Oil Co., No. 93 Huntington, Orange Co. ...	2- 6-11	3,990	flow, 371 b.d.
South Basin Oil Co., No. 94 Huntington, Orange Co. ...	2- 6-11	3,380	will deepen
Elliott Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	4,066	cmtd. 3,896
Lucky Strike Oil Co., No. 7 Huntington, Orange Co. ..	2- 6-11	3,352	redrlg. 2,575
Pan-Coast Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	2,650	sd. sh. drlg.
Richfield Oil Co. No. 10 Fidelity, Huntington, Orange	34- 5-11	3,974	sd. sh. drlg.
Richfield Oil Co., No. 1 Crowell, Huntington, Orange	34- 5-11	4,650	resume work
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	3,597	br. sh. drlg.
Shell Oil Co., No. 18 Brea, Orange Co.	2- 3-10	5,276	redrlg. 4,196
Shell Oil Co., No. 19 Brea, Orange Co.	2- 3-10	4,723	pump. 73 b.d.
Standard Oil Co., No. 2-5 Coyote, Orange Co.	22- 3-10	4,210	sd. sh. drlg.
Oil Conservation Co., No. 1 East Coyote, Orange Co. ...	17- 3-9	2,814	cleaning out
Graham & Loftus, No. 1 East Coyote, Orange Co.	18- 3-9	2,675	sd. sh. drlg.
Bartholomae Oil Co., No. 3 East Coyote, Orange Co. ..	22- 3-10	3,220	reaming
West Coast Ref. Co., No. 1 Santa Ana, Orange Co.	25- 3-9	2,620	sd. sh. drlg.
Bachman Pet. Co., No. 1 Richfield, Orange Co.	29- 3-9	753	sd. sh. drlg.
Union Oil Co., No. 29 Chapman, Richfield, Orange Co.	30- 3-9	8,610	fish. D.P.
Union Oil Co., No. 33 Chapman, Richfield, Orange Co.	29- 3-9	4,450	pump. 25 b.d.
Union Oil Co., No. 38 Chapman, Richfield, Orange Co.	29- 3-9	3,546	sd. sh. drlg.
Union Oil Co., No. 39 Chapman, Richfield, Orange Co.	29- 3-9	2,511	sd. sh. drlg.
Standard Oil Co., No. 2-11 Kraemer, Richfield, Orange	30- 3-9	4,100	cleaning out
Standard Oil Co., No. 2-24 Kraemer, Richfield, Orange	32- 3-9	1,695	sd. sh. drlg.
Calif. Eastern Oil Co., No. 1 Placentia, Orange Co.	31- 3-9	4,925	fish. D.P.
Equitable Pet. Co., No. 1 Wildcat, San Bernardino Co.	11-10-5	2,812	hd. sd. drlg.

KANSAS

Week Ending December 12 (Descriptions are East unless marked otherwise)

Barber County

Pure Oil Co. No. 1 Palmer, SE NE SW sec. 10-33-10w. Drlg. 3,500 ft.

Sinclair Prairie Oil Co. No. 1 Gentry, NE cor. sec. 1-33-15w. Miss. 4,807 ft. (cor.); Viola 5,105 ft.; Simpson 5,235 ft.; Wilcox 5,252 ft.; Sil. 5,331 ft.; T.D. 5,529 ft.; P.B. to 4,879 ft.; acidized: no oil: P.B. to 4,792 ft.

Barton County

Armer & Vernon O. & G. Co. No. 1 Ainsworth, NE NE SE sec. 33-16-13w. Anhy. 865 ft.; K.C. 3,154 ft.; Sil. 3,393-95 ft.; 1,000 ft. O.I.H. in 1 hr.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w. Anhy. 785 ft.; 8-in. 2,070 ft.; fsg. 2,570 ft.

Duwe & Brouk No. 1 Baker, NE SE SW sec. 16-17-13w. Drlg. 575 ft.

Freehorn et al No. 1 Sooy, NW NW NE sec. 27-18-12w. R.U.

Indian Terr. Illm. Oil Co. No. 1 Schrapel, SE SE NE sec. 26-20-11w. R.U.

Minnehoma Oil & Gas Co. No. 1 Smith, NW NW NE sec. 20-18-13w. Drlg. 2,060 ft.

S. L. Parks No. 1 Peach, SE cor. sec. 24-16-14w. R.U.S.T.

C. L. Price No. 1 Deutsch, NW NW NE sec. 16-16-13w. Topeka 2,820 ft.; Oswald 3,135 ft.; Sil. 3,373 ft.; T.D. 3,382 ft.; 2,800 ft. O.I.H. in 9 hrs.

Butler County

Cox & McGinnis No. 1 Faulders, SW SW NE sec. 27-25-3e. M.I.M.

Ralph Wixson et al No. 1 Coulter, NW SW NE sec. 3-27-7. 10-in csg. 1,655 ft.; C.O.

Chase County

Propp et al No. 1 Fromm, SE cor. sec. 29-18-9e. Set 6-in. pipe at 2,420 ft. Drlg. 2,422 ft.

Cowley County

Austin & McKnabb No. 1 Wilson, NE NE SE sec. 20-32-6. Drlg. 975 ft.

C. H. Cross No. 1 Cook, SW cor. sec. 6-32-6. Drlg. 1,442 ft.

Home Natural Co. & McNish No. 2 Werner, SE SE SW sec. 31-32-6. Chat 3,068-87 ft.; S.O. 3,130-32 ft. and 3,140-42 ft. T.D. 3,190 ft.; P.B. to 1,900 ft.; set 8-in. csg. 1,984 ft.

Tom Palmer No. 1 Pierce, SE SE SW sec. 14-31-3e. Drlg. 2,100 ft.

Simpson Oil Co. and Sanolind O. & G. Co. No. 1 Weigle, SW SW NE sec. 18-31-6. Rig.

Wakefield et al No. 1 Beekman, NW NW SE sec. 26-32-3. 8-in. csg. 2,240 ft.; H.F.W. 3,492 ft.; D.&A.

Earl Wakefield et al No. 1 Napp, SW SW NW sec. 2-34-5e. Loc.

Decatur County

Winkler & Koch No. 1 Vessey, C NW SE sec. 26-3-26w. Fsg. 2,135 ft.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. Drlg. 4,629 ft.

Ellis County

H. Jones Bros. et al No. 1 Phillips, SE SE NW sec. 9-15-17w. Anhy. 1,101 ft. Drlg. 2,140 ft.

Ted Kors et al No. 1 Koblitz, SE SW NW sec. 23-12-18w. Pay 3,694-98 ft.; 1,600 ft. O.I.H. in 16 hrs.

Lario O. & G. Co. et al No. 1 Cress, NE cor. sec. 13-11-17w. Anhy. 965 ft.; set 10-in. csg. 2,198 ft.

Loomis & Etyner No. 1 O'Laughlin, SE SE NW sec. 27-13-18w. Rotary rig.

Murphy Oil Co. No. 1 Wiesner, SE SE SW sec. 12-14-19w. Set 15-in. csg. 798 ft.; drlg. 960 ft.

G. M. Piggott et al No. 1 Homburg, C NE sec. 33-11-20w. Anhy. 1,595 ft.; Sil. 3,-930 ft.; T.D. 3,983 ft.; D.&A.

Taylor et al No. 1 Emery, NE NE NE sec. 23-14-18w. Anhy. 1,162 ft.; K.C. 3,-285 ft.; Sil. 3,558 ft.; 4 bbls. oil per hr. 3,566-68 ft.; T.D. 3,570 ft.; P.B. to 3,-565 ft.; 300 ft. O.I.H.

Ellsworth County

Empire O. & R. Co. No. 1 Brown, SE SE NW sec. 1-17-9w. R.U.R.

Grant County

Columbian Fuel Co. No. 1 Gray, C SE sec. 3-29-35w. Set 8-in. csg. 2,500 ft.; 3,000,-000 ft. gas 2,808 ft.; T.D.; C.O.

Greenwood County

Hollis et al No. 1 Boone, NW NE NE SW sec. 21-26-12. M.I.M.

Guy Scott et al No. 1 Pedroja, SE NE SE sec. 6-26-10. Miss. 2,122 ft.; pay 2,154-61 ft.; 300 ft. O.I.H. in 48 hrs.

Ohio Oil Co. No. 1 Schwab, SE SW SE sec. 9-24-10. Loc.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. Chat 3,160 ft.; S.D. 3,350 ft.

Inca Prod. Co. No. 1 Moore, C NE NE sec. 25-24-3w. S.D. 2,860 ft.

Saco et al No. 1 Guthrie, NE NE NW sec. 8-22-2e. Set 10-in. 2,243 ft.; H.F.W. 2,340-50 ft.; U.R. at 2,374 ft.

Haskell County

Helmerich & Payne No. 1 Meredith, C SW sec. 10-30-33w. R.U.R.

Kearney County

J. L. Murphy No. 1 Campbell, NW NW SW sec. 32-25-35w. Anhy. 1,900 ft.; T.D. 2,595 ft.

Logan County

Rose Spring Drlg. Co. et al No. 1 Wright, C SE SE sec. 12-15-35w. Anhy. 2,330 ft.; Ft. Riley 2,868 ft.; cmt. hole 3,515 ft.

Lyon County

Clyde Fred et al No. 1 Bruce, NW cor. sec. 18-18-10. R.U.M.

Marion County

Western Kansas Oil & Ref. Co. et al No. 1 Hauser, SW cor. sec. 19-19-4. Drlg. 1,900 ft.

Meade County

Pacific Midwest Co. No. 1 Rexford, NE SE SW sec. 8-30-29w. R.U.

Mitchell County

Geo. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. Drlg. 890 ft.

Ness County

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. 10-in. 1,942 ft.; S.D. 2,717 ft.

Pawnee County

Kessler & Thier et al No. 1 Shea, NE NE NE sec. 22-21-17w. Sil. 3,881 ft.; T.D. 4,152 ft.; D.&A.

Kessler & Thier et al No. 1 Wallace, SE SE NW sec. 16-23-15w. Loc.

Pratt County

H. V. Elwell et al No. 1 Fay, NW NW SE sec. 15-27-14w. Fsg. 3,500 ft.

Reno County

Carlock et al No. 1 Brown Realty Co., NW NW NE sec. 32-22-10w. Rig.

Empire O. & R. Co. No. 1 Schrock, NW NW SE sec. 22-24-5w. Drlg. 1,914 ft.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. Fsg. 3,685 ft.

Miller et al No. 1 Detter, NE SE SW sec. 28-22-7w. Viola and S.S.O. 3,825 ft.; Simpson 3,859 ft.; sd. 3,861 ft.; H.F.W. 3,867-72 ft.; set 5-in. csg. 3,875 ft.

Clyde Pulse No. 1 Payne, SW NW NE sec. 4-22-7w. S.D. 1,955 ft.

Torry & Feaster No. 1 Schroeder, SE cor. sec. 1-23-7w. B.R.

Westgate-Greenland Oil Co. No. 1 Fossey, SW SW SE sec. 12-22-8w. Chat 3,566-75 ft.; drlg. 3,630 ft. with H.F.W.

W. E. Witt et al No. 1 Wright, SE NE NE sec. 9-23-8w. Cellar.

Rice County

Aylward et al No. 1 M. A. Johnson, NW NW NE sec. 17-21-7w. Cong. 3,358-60 ft. S.O.; 8-in. at 3,358 ft. R.U.S.T.

Buckley No. 1 Bailey, SW SW NW sec. 19-20-6w. Rig.

Carlock et al No. 1 Deweese, SW NW NW sec. 32-20-7w. K.C. 2,895 ft.; Cong. 3,315 ft.; 300 ft. O.I.H. in 12 hrs. at 3,333 ft.; Chat 3,355-57½ ft.; S.D.O.

Charles Pet. Corp. No. 1 Speck, NW NW SE sec. 29-20-8w. K.C. 2,950 ft.; drlg. 2,990 ft.

Dickey Oil Co. No. 1 Brothers, SE cor. sec. 1-21-7w. Rig.

Hanna et al No. 1 Brothers, SE SE NW sec. 25-20-8w. Rig.

Indian Terr. Ill. Oil Co. No. 1 Fossey, SW SW SW NE sec. 31-20-10w. Drlg. 1,250 ft.

Sage et al No. 1 Patton, SW cor. sec. 5-21-7. Cong. 3,329-37 ft.; T.D. 3,342 ft.; 6-in. liner at 3,337 ft. Producing 200 bbls. daily.

Shell Pet. Corp. et al No. 1 Soeken "A," C NW sec. 10-19-9w. Sil. 3,300-09 ft., T.D.; P.B. to 2,938 ft.; S.W. and S.S.O.; to P.B. to 2,928 ft.

W. E. Witt et al No. 1 Wright, NW NW SE sec. 26-19-9w. Sil. and H.F.W. 3,372-75 ft.; T.D. 3,377 ft.; D.&A.

Rooks County

Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-6s-18w. S.D. 1,756 ft.

Empire Oil & Ref. Co. No. 1 Ham, SW NW NW sec. 24-8-19w. Anhy. 1,389 ft.; set 10-in. csg. 2,835 ft.; drlg. 3,000 ft.

Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. Drlg. 2,680 ft.

Jarvis & Strickler No. 1 Hamel, SE SE SW sec. 7-8-20w. Anhy. 1,503 ft.; Topeka 2,979 ft.; K.C. 3,182 ft.; Sil. 3,501 ft.; T.D. 3,534 ft.; D.&A.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. S.D. 3,422 ft.

J. A. Shoemake No. 1 Stebbins, NE NE SW sec. 26-7-17w. T.D. 3,591 ft.; P.B. to 2,806 ft.; pmpd. 25 B.O. and 100 B.W.

Snowden & McSweeney No. 1 Hindman, C E½ NW sec. 35-17s-17w. Howard 2,738-53 ft.; 7-in. csg. 2,745 ft.; R.U.S.T.

Rush County

G. M. Piggott et al No. 1 Maresch, C NW NW sec. 28-19-19w. Loc.

Schoenfeld & Kitch No. 1 Winget, SE cor. sec. 15-16-16w. Set 10-in. csg. 2,434 ft.

W. E. Skeeles et al No. 1 Grumbein, SW SW NE sec. 7-16-20w. Abd. loc.

Russell County

Empire O. & R. Co. No. 1 Frederick, SE cor. sec. 18-15-11w. Drlg. 1,240 ft.

Equity Gas Co. No. 1 Harbaugh, NW NE SW sec. 19-13-12w. S.D. 470 ft.

Saline County

Brouk et al No. 1 Othelander, NE NW SE sec. 10-16-3w. Viola 3,294 ft.; est. 5 B.O.P.D. at 3,294-3,311 ft.; drlg. 3,400 ft.

Ryan Consd. No. 1 Wuerth, SW SW NW sec. 28-14-2w. Loc.

Sedgwick County

Cameron et al No. 1 Smith, SW SE SE sec. 13-27-2e. Spudded and S.D.

D. R. Lauck No. 1 McLean, SW SW SE sec. 1-27-1w. Sil. 3,613 ft.; LaMotte sd. 4,310 ft.; T.D. 4,700 ft.; D.&A.

R. J. Wallace et al No. 1 Scheer, SW cor. sec. 22-27-3w. T.D. 4,211 ft.; set 6-in. 4,211 ft.; cmtd. to 4,251 ft.; bailed: no oil.

Seward County

Helmerich & Payne No. 1 Hyde, C SW sec. 14-31-34w. R.U.

Scott County

C. R. Blackman et al No. 1 Nolan, NW NW NE sec. 13-19-33w. Loc.

Sheridan County

O. A. Roberts et al No. 1 Corrick, C NW sec. 34-9-26w. Set 15-in. csg. 124 ft.; W.O.C.

Stafford County

Atlantic Ref. Co. et al No. 1 Davis, SE SE SW sec. 32-23-12w. Viola 3,790 ft. Sil. 3,964 ft.; T.D. 3,985 ft.; D.&A.

Empire Ref. Co. et al No. 1 Jordon, SW SW NW sec. 15-25-14w. K.C. 3,640 ft., pay 3,722-27 ft.; potential 270 bbls. oil; 70 bbls. water in 24 hrs.

C. H. Lebow et al No. 1 Wolk, SE SW NW sec. 3-21-12w. Skidded rig; set 10-in. at 186 ft. Drlg. 1,852 ft.

Skelly Oil Co. et al No. 1 Kipp, SE SE NE sec. 27-25-14w. Simpson 4,205 ft.; Sil. 4,239 ft.; H.F.W. 4,248-50 ft., T.D.; cmt. to 4,118 ft.; W.O.C.

C. E. Skiles et al No. 1 Hughes, SW cor. sec. 12-23-12w. R.U.R. 508 ft.

E. Skiles No. 1 Leidigh, NW NW SW sec. 21-22-11w. K.C. 3,260 ft.; S.O.&G. 3,300-05 ft.; S.W. 3,340-55 ft.; H.F.W. 3,375 ft.; S.D. 3,505 ft.

Stanolind O. & G. Co. No. 1 Rosacker, SW SW NE sec. 5-25-11w. Loc.

Sumner County

Empire O. & R. Co. No. 1 Hoffman, NW NW SW sec. 27-34-1e. Layton 3,005 ft.; S.S.O. 3,065-75 ft.; H.F.W. 3,085-3,100 ft.; U.R. at 3,200 ft.

Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. K.C. 3,238 ft.; fsg. 3,-585 ft.

Hapenny & Green et al No. 1 Evers, SE SE NE sec. 27-31-2. S.D. 519 ft.

Lario O. & G. Co. et al No. 1 Hall, NW SW NW sec. 11-35-1e. Set 13-in. csg. 1,120 ft.; U.R. at 1,442 ft.

Orcott & Stewart No. 1 Newton, SE cor. sec. 21-30-2. C.W.W.D. Drlg. 605 ft.

Rose Spring Drlg. Co. et al No. 1-A Rutter, C NW NW sec. 21-33-2e. Chat 3,215-25 ft.; R.U.S.T.

Lloyd, Study & Frost et al No. 1 fee, SE cor. sec. 31-34-1e. Drlg. 789 ft.

Trego County

Black Gold Oil Co. No. 1 Allman, C SW SW sec. 34-14-21w. M.I.M.

York State Oil Corp. No. 1 Gugler, SW cor. sec. 36-12-21w. Sil. 3,830 ft.; pay 3,-

837-29 ft.; P.B. to 3,832 ft.; swb. 3 B. F.P.H., ⅔ oil, for 12 hrs.; P.B. to 3,838 ft.; P. 11 B.O. in 24 hrs.

Woodson County

Dwyer et al No. 1 Wolf, NE NE SW sec. 9-24-14. S.D. 1,340 ft.

Nigh & Kilby No. 1 Hogueland, SW SE NE sec. 3-24-15. Pay 1,494-96 ft.; acid; flwd. 25 B.O.; comp.

Ross & Marshall No. 1 Bresner, SW SW SE sec. 6-26-15. M.I.M.

Reamer No. 1 Corn, NE cor. sec. 31-26-15. Miss. L. 1,448 ft.; set csg.: C.O.

OKLAHOMA

Week Ending December 12

NORTHERN OKLAHOMA

Beckham County

Mid-American Oil Co. No. 1 Biscoe, SW SW SW sec. 28-8-22w. Drlg. 1,100 ft.

Cleveland County

Helmerich & Payne, Inc. No. 1 Glenn, C NW NE sec. 6-8-1w. Layton 4,835 ft.; drlg. 5,045 ft.

W. R. Hollenbeck No. 1 Norman, NW NW NE sec. 17-9-2w. Rig.

Coal County

Carter Oil Co. et al No. 1 Warne, NE NE NW sec. 31-3-9. S.S.O.&G. in cores 5,-352-5,405 ft.; Bromide 5,420 ft.; drlg. 5,452 ft.

Continental Oil Co. No. 1 Breedlove, NW SW SW sec. 24-1-8. Hunton 4,814 ft.; S.O. in cores at 4,816-33 ft.; drlg. 5,-060 ft.

Continental Oil Co. No. 1 Daniels, SW NE SW sec. 27-1-9. Union Valley 5,162 ft.; drlg. 5,571 ft.

Continental Oil Co. No. 1 King, NE SW NE sec. 26-1-8. Wilcox 5,743 ft.

Continental Oil Co. No. 1 W. Kirby, SW SE SW sec. 23-1n-8e. Drlg. 1,453 ft.; cd. sd. 5,756-62½ ft.; T.D.; S.S.O. and salty; pulled 2,400 ft. csg.

Shell Pet. Corp. No. 4 Hill-A, NW sec. 30-3-10. Sylvan 5,348 ft.; Viola 5,427 ft.; drlg. 5,640 ft.

Creek County

M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. Layton 1,605-95 ft.; Jones 1,835-50 ft.; Cleveland 1,985-2,010 ft.; S.G.; Prue 2,505-50 ft.; sd. 2,-559-60 ft.; S.O.; 6-in. at 2,545 ft.

Garfield County

Arab Oil Co. No. 1 Harkendorf, NE cor. sec. 34-20-3w. Loc.

Ohio Oil Co. No. 1 McFarland, SE SE SE sec. 25-24-3w. Dense 4,895 ft.; Dol. 4,-908 ft.; Wilcox 4,940 ft.; cg. 4,944 ft.

Ohio Oil Co. No. 1 Smythe, NE NE SW sec. 23-22-4w (Wilcox sd. test), Viola 4,-879 ft.; Simpson 4,910 ft.; first Wilcox 4,968-5,020 ft.; second Wilcox 5,070 ft.; Tyner 5,193 ft.; Arbuckle 5,358 ft.; T.D. 5,449 ft.; perf. pipe 2,260-75 ft.; 50 shots; D.&A.

Garvin County

Ellison & Hammond No. 1 Selby, C SE NW sec. 24-2n-3w. Drlg. 5,300 ft.

Hayes Drlg. Co. No. 1 Howell, NW SE NW sec. 34-1-1. Rig.

Pure Oil Co. No. 1 Baker, NE cor. sec. 7-2-1e. Shows of dead oil 5,089-5,274 ft.; Arbuckle 5,345 ft.; T.D. 5,431 ft.; fsg.

Greer County

Bud Lewis et al No. 1 Webster, SW NE NE NE sec. 7-7-24w. Drlg. 1,255 ft.

Neff-Godfrey-Andrea No. 1 Melton, SE NW SE sec. 16-3n-22w. Loc.

Hughes County

W. W. Bussett No. 1 Field, C NW SW sec. 11-9-11. R.U.S.T.

R. K. Ellison No. 1 Peters, SE NW SE sec. 8-6-10. Gilcrease series 3,529 ft.; S.S.O.&G. in cores; T.D. 3,590 ft.; tstg.

McAdams & Barnes No. 1 Koch, SW NE NE sec. 1-9-10. T.D. 3,838 ft.; rng. csg.

Mid-Western Prod. Co. No. 1 Hill C SE NW sec. 13-9-9. Drlg. 1,350 ft.

Southern Oil Co. No. 1 Buck, C NW SW SW sec. 21-8-10. R.U.S.T.

Kay County

Black Gold No. 2 Cooley, SW SW SE sec. 25-28-4e. Loc.

G. A. Brown et al No. 1-A Harris, SW SW NE sec. 14-25-1e. B.R.

Helmerich & Payne No. 1 Constant, SW SW NE sec. 17-28-2w. R.U.

Max Kelley No. 1 Johns, NW NW NW sec. 35-27-4. Skinner 3,016-24 ft., dry; Bartlesville 3,036 ft.; T.D. 3,160 ft.; D.&A.

Kiowa County

Argus Pet. Co. No. 1 Osborne, NW cor. NE sec. 9-7-16w. L. 1,180 ft. S.D. 1,225 ft. T.D.

Burns & Moore No. 1 Block, NW NE SW sec. 31-6-16w. S.D. 50 ft.

Lykins et al No. 1-A Aetna Life, SE cor. sec. 8-5-16w. T.D. 851 ft.; abd.

Travis & Scott No. 1 Doyle, NE SE SW sec. 21-5-17w. T.D. 939 ft.; machine moved out.

Latimer County

Cheyenne Oil Co. No. 1 Wilson, C SE SE sec. 15-5-18. Sd. 2,248-60 ft.; S.O.; T.D. 2,902 ft.; caving hole.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. 10-in. 2,246 ft.; T.D. 2,340 ft.; U.R.

Lincoln County

Fleetborn Oil Corp. No. 1 Turner, NW NW SE sec. 28-17-5. Layton 2,284 ft.; S.G.; B'ville 3,508 ft.; first Wilcox 3,953-67 ft.; est. 4,000,000 ft. gas, no oil, on D.S.T.; second Wilcox 3,985-86 ft.; tbg. at 3,996 ft.; sprayed 33 B.O. in 12 hrs.

Logan County

Anthony & Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1e. C.O. 4,955 ft.

Harry Blackstock No. 1 Prince, SE NE SW sec. 11-17-3w. Digging cellar.

Helmerich & Payne et al No. 1 Hasler, NW NW SE sec. 14-16-4w. Oread 3,740 ft.; Tonkawa 4,130 ft.; Checkerboard 5,-130-75 ft.; drlg. 5,772 ft.

Muskogee County

A. D. Spears et al No. 1 Robbins, NW cor. sec. 20-15-20. Turkey Mt. sd. 1,677-84 ft.; Arbuckle 1,710 ft.; T.D. 1,811 ft.; S.S.O.; S.D.

Noble County

Shell Pet. Corp. No. 1 Moelling, C SW NW sec. 31-21-2w. Cd. 5,384-89 ft.; R.U.S.T.

Taylor & Lindsey et al No. 1 Aetna Life, SE SE NW sec. 1-23-2w. Drlg. 1,910 ft.

Okfuskee County

Harvey Oil Co. No. 1 Stewart, NE cor. sec. 28-10-9. Set 10-in. csg. at 61 ft.; S.D.

Okla. Oil Corp. No. 1 Dawley, NW NW SE sec. 8-10-9. Senora 1,800 ft.; T.D. 1,-858 ft.; W.O.C.

Osage County

Chavalier & Simon No. 1 Osage, SE cor. sec. 24-23-9. T.D. 2,309 ft. S.D.

Norbla Oil Co. No. 1 Osage, NE NE SW sec. 13-23-6. M.I.M.

Pawnee County

Forest Dev. Corp. No. 1 Otter, NE NW sec. 15-21-5. Bartlesville 3,173 ft.; Cd. 3,180-3,225 ft.; S.O.&G.; R.U.S.T.; Schlumberger test showed wtr.; to deepen.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Sand 3,398 ft.; drlg. 4,371 ft.

Pontotoc County

Caloma Oil Corp. No. 1 Brentz, SE NE SW sec. 4-1-6. S.D. 503 ft.

W. A. Delaney and Boettcher O. & G. Co. No. 2 Alexander, SW NE SW sec. 24-4-7. Old T.D. 3,520 ft.; Hunton 3,726 ft.; S.S.O.&G. in cores; T.D. 3,770 ft.; pulled in rig.

E. H. Moore et al No. 1 Muse, SW NE SE sec. 33-2n-7. Cellar and pits.

Ramsey Pet. Co. No. 1 Johnson, NW SW SE sec. 9-3-7. Sd. 145-80 ft.; showed asphaltic oil; drlg. 810 ft.

Seminole County

Amerada Pet. Corp. No. 1 Yarhola, NE NW NW SE SE sec. 12-6-6. Sand 2,290-2,301 ft.; oil stain; Cromwell sd. 2,903 ft.; S.W.; to P.B.

Okla. Oil Corp. No. 1-A Gaines, NE SW SW sec. 20-6-7. Cellar.

Riverland O. & G. Co. No. 1-A Goebelt, NW SE SE sec. 12-6-6. Sd. 2,290-2,301 ft., oil stains; Cromwell 2,903 ft. T.D.; P.B. to 2,306 ft.; W.O.C.

A. I. Spears No. 1 Keaton, NW cor. sec. 6-5-8. Rig.

Paul Traugh No. 1 Williams, NE SE NE sec. 22-6-6. Set 12-in. csg. 60 ft.

Texas County

Allison & Barnhill No. 1 Bingley, SE SE NE sec. 30-2n-18. (Cimmaron Meridian). Drlg. 2,398 ft.; S.S.O. 2,295 ft.

SOUTHERN OKLAHOMA

Atoka County

A. J. Sanders No. 3 Redden, SE SW SW sec. 19-1n-15e. Sdy. L. 910 ft.; cd. to 932½ ft.; bailed to 60 ft. off bottom; rainbow S.O.; cmtg. cave.

Carter County

Head & Straus No. 1 Simpson & Fell, NW NW SE sec. 5-1s-3w. Drlg. 1,394 ft.

Comanche County

Frank Scott No. 1-A Kuntz, SE NE SE sec. 21-4-11w. Drlg. 1,565 ft.

C. V. Morris No. 1 Young, SE NE SE sec. 24-3n-10w. Drlg. 425 ft.

L. D. Wise No. 1 Cones, SE SE SW sec. 11-1n-10w. T.D. 2,156 ft.; S.D.

Cotton County

Phillips Pet. Co. No. 1 Warren, C NE NE SE sec. 1-5s-13w. T.D. 3,296 ft.; H.F.W. and S.D.O.

Grace-Wood Drlg. Co. No. 1 Wilson, C SW NW sec. 17-4s-11w. L. 3,910 ft.; cd. 3,-912-14 ft.; drlg. sdy. L. 3,995 ft.

Harmon County

Lioalko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. T.D. 2,980 ft.; S.D.O.

Jackson County

Everett & Morgan No. 1 Dameron, NW SW SW sec. 34-3n-18w. Drlg. 145 ft.

Jefferson County

Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-6s-6w. T.D. 21 ft.; S.D.

Mid-Continent Oil Co. No. 1 Reid, C SW NW sec. 32-6s-4w. T.D. 1,807 ft., contract depth.; S.D.O.

Johnston County

Patton et al No. 1 McCrummens, SW SW NE sec. 16-1s-6e. T.D. 580 ft.; S.D. for csg.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D. 7,363 ft.; P.B. 2,970 ft.; perforated csg. at 1,539-99 ft. and 2,095-2,115 ft.; cmtd. perf.; flwd. 22 bbls. in 24 hrs. and "went dead"; S.D.O. Aug. 4.

W. H. Riddle et al No. 1 Johnson, C SW SE cor. sec. 20-8s-2w. T.D. 4,009 ft.; waiting for tools; will deepen.

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,583 ft.; cut 5-in. csg. at 7,109 ft.; P.B. to 6,927 ft.; swbg. 30 to 70 bbls. daily.

Murray County

Power Oil Co. et al No. 1 Lancaster Trust, C SW NE sec. 10-1s-2e. Woodford 2,630 ft.; Hunton 2,951 ft.; S.O. in Hunton at 3,184-93 ft.; Sylvan 3,197 ft.; T.D. 3,203 ft.; mvg. out std. tools.

J. Ben Russell No. 1 fee, SE SE NW SE sec. 9-2s-3e. Drlg. 165 ft.

Marshall County

Magnolia Pet. Co. No. 1 Gardner, NE NE NW sec. 34-6s-6e. Hunton 1,917 ft.; S.O. 1,917-32 ft.; Sylvan 2,075 ft.; drlg. 2,-145 ft.

Stuart & Taylor No. 1 Chestnut, NE cor. sec. 23-8s-5e. O.W.D.D.; drlg. 615 ft.

Stephens County

Jack Cohen No. 1 Pierce, NE NE NW sec 24-2s-6w. T.D. 235 ft.; S.D. for csg.

Coline Oil Co. No. 1 Johnson, SW SE NE NE sec. 1-2n-8w. Sd. 5,050-82 ft.; oil stains; drlg. ahead.

H. J. Edwards No. 1 Frederick, SW cor. NE SE NW sec. 31-2n-8w. Drlg. 2,140 ft.

Ed Parson No. 1 Olson, C SW SW sec. 21-2-8w. Broken L. 5,980 ft.; L. 6,005-90 ft.; drlg. 6,257 ft.

Tillman County

Indian Terr. Ill. Oil Co. No. 1 Hatler, C SW NE sec. 32-2s-17w. T.D. 3,816 ft. P.B. to 3,808 ft.; bailing; S.O.&W.

Lynn Oliver No. 1 Rilling, SE SE NW sec. 22-1s-15w. Granite Wash 1,275-78 S.O.; T.D. 1,314 ft. S.D.

Shirley Clum et al No. 1 Moricle, NW NW SE sec. 16-4s-14w. T.D. 1,331 ft.; C.O.

ARKANSAS

Cleveland County

J. R. Lockhart No. 1 Ida Robertson, SE cor. sec. 36-10-11w. S.D. 2,998 ft.; fuel.

Columbia County

King Oil Co. No. 1 Kitchen et al, NE SE NW sec. 13-17-22. T.D. 3,824 ft.; D.&A.

Grant County

Wallace & Staples No. 1 W. F. Davis, SE SE NW sec. 23-6-15. T.D. 1,869 ft.; tstg.

Hempstead County

Root Pet. Co. No. 1 D. F. Jones, 330 ft. S and W. NE SW NE sec. 16-13-23. Drlg. 1,775 ft.

Miller County

Harber & Parks No. 1 Dean, NW SE sec. 24-15-26. Cg. 2,850 ft.

Odell Hinson No. 1 Montana Realty Co., 330 ft. S and W NE NW NW sec. 3-17-28. Rng. tbg. to test; T.D. 5,278 ft.

C. V. Lenz No. 7 Dale, O.W.D.D., sec. 24-15-26. Swbg. and tstg.; T.D. 4,215 ft.

Nevada County

Benedum & Trees No. 1 Block, NE NE SE sec. 9-14-20. R.U.

Benedum & Trees No. 1 Fincher, NW SW NE sec. 10-14-20. 7-in. cmt. 2,145 ft.; T.D. 2,150 ft.; tstg.

Benedum & Trees No. 3 Grove, SW SE NW sec. 10-14-20. Comp.; pmp. 173 B. P.D.; T.D. 1,243 ft.

Benedum & Trees No. 4 Grove, SE SW NW sec. 10-14-20. Drk.

Benedum & Trees No. 5 Grove, NE SW NW sec. 10-14-20. Drlg. 200 ft.

Benedum & Trees No. 6 Grove, SW NE NW sec. 10-14-20. Loc.

L. M. Glasco No. 1 Ritchie Est., NW NW SE sec. 10-14-20. T.D. 1,271 ft.; W.O.C.S.

John R. Lewis No. 1 W. Haynie, SW SW NE sec. 5-14-20. R.U.

Steel & Warmack No. 1 Wm. Haynil, SE SE NW sec. 6-14-21. S.D. 200 ft.

Ouachita County

J. D. Reynolds No. 2 P. C. Grayson, Lot 4, Blk. 10, Stephens Sur., sec. 21-15-19. 10-in. cmt. 20 ft.; W.O.C.S.

J. D. Reynolds No. 2 M. V. Lenehon, NW SE SW sec. 36-15-16. T.D. 2,014 ft.; W. O.S.R.

Pope County

Arkansas-La. No. 1 Smith, sec. 10-8n-21w. Drlg. 3,142 ft.

Pulaski County

G. L. Kilselman No. 1 fee, SE SE SW sec. 2-1-13. Drlg. 770 ft.

Union County

Fenn-Ark. Corp No. 1 W. N. Raulston, 330 ft. S and E, NW NW SE sec. 12-17-14. T.D. 2,810 ft.; S.D. rig repairs.

S. H. A. Oil Corp. No. 1 H. D. Warren, NE SW SW sec. 10-17-14. T.D. 3,386 ft.; arg. make D.S.T.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

Ark.-La. Gas Co. No. 2 Teamer, NW SE SW sec. 13-23-16. Drlg. 2,610 ft.

J. G. Collins No. 2 Caddo School Bd., sec. 8-23-15, Rng. 7-in.; T.D. 6,072 ft.

Idessa Oil Co. No. 1 D. K. Sumner, NW SW SE sec. 10-23-15. T.D. 6,197 ft.; swbd. dry; W.O.

Lion Oil Ref. Co. No. 6 Wynn, NE SW SE sec. 9-23-15. Drlg. 4,905 ft.

Lion Oil Ref. Co. No. 7 Wynn, NE SW sec. 9-23-15. Drlg. 4,895 ft.

Magnolia Pet. Co. No. 7 Foscue, NE cor. sec. 22-23-16. Loc.

McAlester Fuel Co. No. 2 N. S. Tyson, C sec. 22-23-16. Comp.; flw. 12 B.P.H.; T.D. 6,016 ft.

R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Drlg. 6,000 ft.

R. W. Norton No. 2 Starke, 660 ft. N and E, SW sec. 16-23-16. Drlg. 3,016 ft.

Phillips Pet. Co. No. 2 Interstate, 330 ft. S and W, NE NW sec. 16-23-15. Fsg. 7 jts. D.S.; T.D. 5,883 ft.

Phillips No. 3 Rose McDonald, NE cor. sec. 17-23-15. Drlg. 3,000 ft.

Standard Oil of La. No. 1 Farmer, SW NW SW sec. 7-23-15. Comp.; flw. 10 B.P.H.; T.D. 6,088 ft.

Standard Oil Co. of La. No. 1 J. R. Hardin, 660 ft. N and E, C sec. 16-23-16. R.U.

United Gas No. 6 Brewer Unit, 655 ft. S and E, NW sec. 21-23-16. Loc.

United Gas No. 5 fee 574, 655 ft. S and W, C sec. 16-23-16. Loc.

United Gas No. 3 Gibson Unit, 656 ft. N and E, SW SW NW sec. 15-23-16. T.D. 5,785 ft.; S.D. high wtr.

United Gas No. 4 Harris, NW NW SE sec. 15-23-16. 7-in. cmt. 5,998 ft.; T.D. 6,018 ft.; W.O.

United Gas No. 2 McCoy, 656 ft. N and W, SE SE NE sec. 16-23-16. Drlg. 5,-941 ft.

United Gas No. 3 W. M. Mitchell, NE cor. 112-ac. tr., sec. 20-23-16. Loc.

United Gas No. 1 Stephens, 655 ft. S and W, NE sec. 20-23-16. Loc.

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 Dunn and Olsen, C N½ NW¼ sec. 15-16-10. T.D. 5,235 ft.; D.S.T. est. 5,000,000 ft. gas; prep. set csg.

Lide & Greer No. 1 Smelley, 220 ft. N, 160 ft. W. SE SW NE sec. 13-16-5. Drlg. 2,300 ft.

McDowell et al No. 1 Locke, NE cor. sec. 9-15-10. T.D. 1,204 ft.; D.S. 1,154-70 ft.; dry; S.D. for fuel.

Seaboard No. 1 McGee, 660 ft. N and E, C sec. 3-16-6. O.W.D.D.; T.D. 6,187 ft.; fsg.

Bossier Parish

Ark.-La. No. 1 W. H. Davis, 660 ft. S, 1,-270 ft. E, NW NE NW sec. 8-17-11. 10-in. ctm. 2,560 ft.; W.O.C.S.

Ark.-La. Gas No. 1 P. Potter, SW sec. 8-17-11. Drlg. 910 ft.

Premier Inv. Co. No. 38 Wyche, NE NW NW sec. 14-19-11. Comp.; pmpd. 10 B.P. D.; T.D. 400 ft.

Plain Drlg. Synd. No. 1-B S. H. Bollinger, SE SW NE sec. 36-23-13. Loc.

Tidwell et al No. 1 Natting, sec. 15-22-14. 7-in. cmt. 5,965 ft.; T.D. 2,971 ft.; W. O.C.S.

United Gas No. 1-G H. L. Skannal, NE SE NE sec. 22-17-12. T.D. 5,170 ft.; flw. 35 B.P.H.; tstg.

Caddo Parish

Bayou State No. 3 S. Jolly, 700 ft. S and E, NW NW SW sec. 22-22-15. 6-in. cmt. 1,021 ft.; T.D. 1,032 ft.

W. D. Chew No. 1-D Levee Bd., NW SE NE sec. 34-21-16. T.D. 932 ft.; W.O.S.R.

W. D. Chew No. 2 U. S. Govt., NW cor. sec. 5-20-15. T.D. 955 ft.; W.O.S.R.

Custer Oil Co. No. 1 Wemple, N½ NW sec. 14-20-15. Drlg. 303 ft.

Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E, SW cor. SE¼ sec. 11-17-15. Drlg. 7,446 ft.

Lawrence Potter No. 1 Head, NE NE sec. 26-21-15. Drlg. 895 ft.

F. L. Luckett No. 1 Connell, SW NE sec. 10-20-15. T.D. 2,105 ft.; will run csg.

Maja Oil Co. No. 1 Hyman, 950 ft. W, 860 ft. N. SE cor. sec. 10-20-15. Drk.

Matt M. Press No. 1 Keller, SE cor. sec. 10-20-15. T.D. 2,204 ft.; blg. to test.

Producers O. & G. Co. No. 2 Currie, NE SE sec. 32-19-16. T.D. 950 ft.; D.&A.

Rodgers et al No. 1 Thompson, NW SW sec. 11-20-15. Drk.

Simplex No. 10 Youree, NW SW sec. 7-20-14. R.U.
Stanolind No. 115 Dillon, SW SE sec. 14-21-15. R.U.
Stanolind No. 116 Dillon, SE SE sec. 14-21-15. Loc.
Morefield & Prine No. 3 Stokeley, sec. 5-20-16. 6-in. cmt. and perf.; T.D. 957 ft.; W.O.C.S.
Shreveport Oil Co. No. 8-B Muslow, SW NW sec. 4-20-15. 6-in. cmt. 2,150 ft.; T.D. 2,165 ft.
Simplex No. 5 Natalie, SE W½ SE sec. 10-20-15. T.D. 2,197 ft.; D.&A.
Stanolind O. & G. Co. No. 114 Dillon hrs., 65 ft. N. 816 ft. E. SW SE NE sec. 14-21-15. T.D. 1,674 ft.; will acidize.
J. J. Thompson No. 1 Gamm, NE SW NW sec. 35-21-15. Drlg. 335 ft.

Catahoula Parish

Balcones Corp. No. 1 T. J. Chisholm, 1,500 ft. N, 2,500 ft. W, SE cor. sec. 19-10-8e. Drk.

Claiborne Parish

Max Hirsch et al No. 1 C. O. Ferguson, 2,640 ft. N, 1,000 ft. E, SW cor. sec. 29-22-6w. Drlg, wtr. well.
E. T. Oakes No. 1 H. W. Patton, NE cor. sec. 1-20-5. 5-in. cmt. 5,035 ft.; T.D. 5,379 ft.; W.O.C.S.
United Gas et al No. 1 R. Simms, NW cor. sec. 32-20-5w. Loc.
United Gas No. 1 A. P. Taylor, SE cor sec. 5-19-5. T.D. 5,926 ft.; P.B. to 4,900 ft.; S.W. and abd.

De Soto Parish

Chamberlin et al No. 1 Lanier, 280 ft. N and E, SW NE sec. 29-11-11. Drk.
Fite et al No. 1 Ramsey, sec. 36-11-11. S.D.; W.O.; T.D. 1,786 ft.; hole clean.
R. C. Payne No. 1 Harris, sec. 11-13-14. T.D. 3,000 ft.; contract depth; S.D.
Peral Oil Co. No. 1 Joyner, SE NW SW sec. 28-11-12. S.D. 1,630 ft.
Stillers et al No. 2 Jenkins, 330 ft. S and W, NE SE NW sec. 35-13-12. S.D. 2,503 ft.; fuel.
R. M. Sundby No. 1 A. P. Garland, NW SW sec. 7-14-14. Drlg. 2,775 ft.
Vaughn Prod. Co. No. 1 Sample, 330 ft. N and E, SW NE SE sec. 24-11-14. R.U.

Franklin Parish

Snyder & Sherrouse No. 1 Kimbee, SE SW sec. 36-12n-8e. T.D. 3,000 ft.; S.W. and abd.

Grant Parish

Arcadia Oil Co. No. 4-B Swope, 330 ft. N of No. 2-B, sec. 17-9-1e. Cg. 1,600 ft.
Cane River Prod. Co. No. 1 Swope, SW NW sec. 17-9-1e. T.D. 1,609 ft.; W.O.S.R.
Grant Oil Corp. No. 1 Holmes, 300 ft. N, 150 ft. E, SW NE SW sec. 17-9-1e. T.D. 1,609 ft.; 6-in. cmt. 1,601 ft.; W.O.C.S.
Kirby et al No. 1 Maxwell, 150 ft. N, 300 ft. W, SE SW sec. 9-9-1e. T.D. 852 ft.
Pet. Prod. Co. No. 1 Buffington, SE NE sec. 18-9-1. T.D. 1,608 ft.; W.O.S.R.
Ferry et al No. 1 Barrett, 150 ft. N and W, SE NE SE sec. 17-9-1e. T.D. 1,604 ft.; 6-in. cmt. 1,583 ft.; W.O.C.S.
T. W. Tannin No. 1 Kees, SE sec. 18-9-1e. Drlg. 985 ft.

Morehouse Parish

Carbons Consolidated No. 8 Feazel, NW SW sec. 3-20-4e. 6-in. cmt. 2,100 ft.; W.O.C.S.
So. Carbon Co. No. 17 Tensas, NE cor. sec. 4-20-4. 6-in. cmt. 2,165 ft.; W.O.C.S.
S. D. Hunter No. 11 Allison, 4,402 ft. E, 2,423 ft. S, NW cor. sec. 1, in sec. 47-20-4e. Loc.
S. D. Hunter No. 12 Allison, 3,388 ft. E, 1,144 ft. N, SW cor. sec. 36, in sec. 37-21-4e. Drk.
S. D. Hunter No. 13 Allison, 4,253 ft. E, 3,666 ft. N, SW cor. sec. 36, in sec. 37-21-4e. 5-in. cmt. 2,178 ft.; W.O.C.S.; comp.; 2,000,000 ft. gas; T.D. 2,210 ft.
United Carbon No. 3 Crossett, 641 ft. N and W, SE sec. 19-21-5e. 8-in. cmt. 735 ft.; drlg. 2,125 ft.

Ouachita Parish

Carbons Cons. No. 10 fee, 707 ft. N, 738 ft. E, SW cor. sec. 26-19-3e. 6-in. cmt. 2,130 ft.; W.O.C.S.
United Carbon No. 7 Neston, NE cor. sec. 32-19-4e. R.U.

Red River Parish

Byrd Exp. Co. No. 1 Edge, SW NE sec. 29-13-11. Hole clean; T.D. 2,499 ft.; W.O.S.R.
Gulf No. 25 Kennedy, NW cor. sec. 24-13-11. Loc.
W. J. Hunter No. 1 Long Bell Lbr. Co., sec. 19-13-9. T.D. 3,710 ft.; prep. to make D.S.T.
Perla Oil Co. No. 1 DeLong, 330 ft. S and E, C sec. 33-12-10. S.D. 1,215 ft. for fuel.

Richland Parish

Gulf Ref. Co. No. 15 R. R. Rhymes et al, sec. 32-17-6e. Drlg. 8,175 ft.

Sabine Parish

Blue Lake Oil Co. No. 1 Delaney & Wheless, NW SW sec. 31-9-13. S.D. for csg.; 7-in. cmt. 1,623 ft.; W.O.C.S.
A. L. Braden et al No. 1 Graham, SE NE sec. 19-9-13. R.U.
F. G. Cox No. 1 Whitney Corp., C NW NE sec. 8-9-13. Ran tbg. to 4,365 ft.; tstg.; T.D. 5,503 ft.
Earl F. Fox No. 1 Blankenship, NE SE NW sec. 13-9-12. Drk.
Hunter Co. et al No. 18 Sabine Ld. Co., SE sec. 28-8-13. Drlg. 1,300 ft.
J. R. Keen No. 1 Long Bell, 276 ft. N and 288 ft. W, SE cor. NE SW sec. 5-18-13. Acidized; W.O.S.R.
Posey Sisters Oil Co. No. 3 Burkett, NE cor. sec. 10-9-13. S.D. 3,234 ft.
L. Swift No. 1 Long Bell, NW SE SW sec. 11-8-14. 10-in. cmt. 62 ft.; W.O.C.S.

Union Parish

Interstate Nat. Gas No. 57 fee, 660 ft. N, 4,635 ft. W, SE sec. 30-21-4e. 6-in. cmt. 2,074 ft.
Interstate Nat. Gas No. 58 fee, 4,620 ft. N, 700 ft. W, SE sec. 1-20-3e. 6-in. cmt. 2,130 ft.
Interstate Nat. Gas No. 16 Grayling, 660 ft. N, 1,375 ft. W, SE cor. sec. 20-21-4e. Loc.
So. Carbon Co. No. 14 Grayling, SE cor. sec. 5-21-4e. 6-in. cmt. 2,185 ft.; W.O. C.S.

Webster Parish

Magnolia Pet. Co. No. 5 J. Cox, SW SE sec. 23-21-10. Drlg. 7,208 ft.
R. W. Norton No. 2 Josey & Masey, C W½ NE NW sec. 27-21-10. Clearing loc.
Ohio Oil Co. No. 1 R. M. Coyle, NE SE sec. 22-21-10. Drlg. 7,500 ft.
Ohio Oil Co. No. 1 Bodcaw Lbr. Co., C NE SE sec. 28-21-10. Drlg. 7,619 ft.
Red Hawk Oil Co. No. 1 Mayfield, sec. 9-23-9. Drlg. 150 ft.
Seaboard Oil Corp. No. 1 Cotton Valley Ld. & Lbr. Co., NW SW sec. 35-22-10. Cg. 6,033 ft.
Standard Oil Co. of La. No. 1 E. Firdecker, 1,320 ft. E, 1,316 ft. S. NW cor. sec. 2-17n-9w. 9-in. cmt. 2,950 ft.; drlg. 4,040 ft.
Tide Water No. 1 L. Pipes, NE SE sec. 10-18-10. D.S. stuck 3,625 ft.; fsg.
United Gas No. 2 Davis, 660 ft. S and E, NW cor. sec. 23-21-10. Drlg. 7,083 ft.
United Gas No. 1 Mixon, SE SW sec. 22-21-10. Drlg. 7,027 ft.
Woodley Pet. Co. No. 2-B L. C. Cox, cen. SW SW sec. 23-21-10. T.D. 5,557 ft.; tstg.

Winn Parish

C. A. Cline No. 1 Collingsworth, SW SE SE sec. 14-10-6w. Drk.

SOUTH LOUISIANA FIELDS

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 13 State, sec. 17-22s-18e. R.U.

Bayou Mallett—Acadia Parish

Superior Oil Prod. Co. No. 1 Savoie, sec. 47-7s-1e. Drk.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 35 Watkins, sec. 8-12s-12w. T.D. 5,462 ft.; I.P. 602 B.P.D. through 16/64-in. ck.

Caillou Island—Terrebonne Parish

Texas Co. No. 33 State, sec. 20-23s-20e. Drlg. Anhy. 4,981 ft.
Texas Co. No. 31 State, sec. 20-23s-20e. Cg. sdy. sh. 4,552 ft.

Charenton—St. Mary Parish

Mike Hogg et al No. 1 Laws Realty Co., sec. 30-13s-10e. R.U.

Choctaw—Iberville Parish

Standard Oil Co. No. 6 Gay, sec. 52-9s-11e. Drlg. sdy. sh. 3,080 ft.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 16 Sch. Ld., sec. 16-14s-13w. Set 10¾-in. csg.; T.D. 3,549 ft.; 7-in. csg. 3,529 ft.; swabbing, showing S.W.
Burton Sutton Oil Co. No. 17 School Ld., sec. 16-14s-13w. Drlg. sdy. sh. 2,285 ft.
Magnolia Pet. Co. No. 19 Cameron Meadows, sec. 21-14s-13w. R.U.

Darrow—Ascension Parish

Humble O. & R. Co. No. 8 Gumble, sec. 33-10s-2e. 16-in. csg. 262 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 4 State, sec. 5-22s-16e. Drlg. sdy. sh. 4,875 ft.

Fausse Point—Iberia Parish

Texas Co. No. 2 State, sec. 35-11s-8e. 7-in. 6,444 ft.; drlg. sh. 6,459 ft.

Garden Island—Plaquemines Parish

Texas Co. No. 20 State, sec. 37-23s-33e. Drlg. sdy. sh. 5,060 ft.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 3 Ada Mays, sec. 14-9s-8w. T.D. 7,062 ft.; 7-in. csg. 7,026 ft.; W.O.C.
Fohs Oil Co. No. 16 Castle, sec. 13-9s-8w. Drlg. sh. 7,024 ft.
Union Sulphur Co. No. 11 Barbe, sec. 1-9s-8w. Drlg. sdy. sh. 6,101 ft.
Union Sulphur Co. No. 12 Barbe, sec. 1-9s-8w. Drlg. sh. 5,668 ft.
Union Sulphur Co. No. 2 Bel, sec. 12-9s-8w. T.D. 6,788 ft.; P.B. 5,271 ft.; sidetracked; cg. sd. 6,891 ft.
Union Sulphur Co. No. 10 Powell, sec. 29-7s-2w. T.D. 6,758 ft.; testing.
Union Sulphur Co. No. 11 Powell, sec. 12-9s-8w. Loc.
Union Sulphur Co. No. 13 State, sec. 12-9s-8w. Drk.
Union Sulphur Co. No. 15 State, sec. 12-9s-8w. Drk.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 22 Erwin, sec. 12-12s-10w. Drlg. sh. and L. 5,291 ft.
Harrison and Abercrombie No. 1 Verdine, sec. 36-12s-10w. 16-in. csg. 62 ft. T.D. 4,300 ft. Abd.
Independent Oil Co. No. 1 Sanner, sec. 29-12s-10w. S.D. 865 ft.
Stanolind O. & G. Co. No. 3 Duhon, sec. 22-12s-10w. Drlg. sdy. sh. 4,428 ft.
Stanolind O. & G. Co. No. 24-B Gulf Ld., sec. 14-13s-10w. Drlg. sh. 4,978 ft.
Stanolind O. & G. Co. No. 7-A School Ld., sec. 16-12s-10w. 10¾-in. csg. 1,969 ft.; T.D. 5,485 ft.; P.B. 3,148 ft.; W.O.C.
Superior Oil Prod. Co. No. 1 Hebert, sec. 33-12s-10w. T.D. 6,026 ft.; P.B. 3,200 ft.; W.O.C.
Texas Co. No. 20 State, sec. 12-12s-10w. Drlg. sd. and gravel 210 ft.
Union Sulphur Co. No. 42 Walkins, sec. 13-12s-10w. Loc.

Iowa—Cameron Parish

Shell Pet. Corp. No. 21 Heyd, sec. 13-9s-7w. T.D. 6,573 ft.; W.O.C.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 6 Banta, sec. 40-13s-9e. Drlg. sh. 3,836 ft.
Herton Oil Co. No. 3 Carter, sec. 38-13s-9e. 10¾-in. csg. 1,461 ft.; T.D. 6,737 ft.; making D.S.T.
Herton Oil Co. No. 4 Roane, sec. 40-13s-9e. Drlg. sd. and sh. 6,348 ft.
A. U. Morrison No. 1 Matilda Plantation, sec. 70-13s-9e. Drk.
Philtop O. & G. Co. No. 1 Eaves, sec. 70-13s-9e. M.I.R.

Jennings—Acadia Parish

Cosmo Pet. Co. No. 4 Jennings Clemont, sec. 46-9s-2w. Cg. sd. 2,060 ft.
Shell Pet. Corp. No. 2 Community, sec. 40-9s-2w. Drlg. sd. 5,481 ft.
Superior Oil Prod. Co. No. 1 Crawley, sec. 42-9s-2w. T.D. 6,448 ft.; 7-in. csg. 5,616 ft.
Superior Oil Prod. Co. No. 1 Jennings-Heywood, sec. 41-9s-2w. Cg. sh. 6,439 ft.

Lafitte—Jefferson Parish

Texas Co. No. 5 Rigolettes, sec. 29-17s-24e. T.D. 10,942 ft.; stuck pipe while rm. at 10,932 ft. Sidetracked at 7,032 ft. Drlg. sh. and L. 8,553 ft.
Texas Co. No. 6 Lafitte, sec. 20-17s-24e. Dig canal.
Texas Co. No. 1 R. C. Milling, sec. 20-17s-24e. Drlg. sh. 9,503 ft.; cd. oil sd. 9,416-21 ft.
Texas Co. No. 6 Rigolettes, sec. 39-17s-24e. Dig canal.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State, Drlg. sdy. sh. 8,000 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 6 LaFourche, sec. 11-8s-25e. T.D. 3,039 ft.; stdrkd.; drlg sdy. L. 3,110 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e. Drlg. sd. 6,944 ft.

Leesville—Lafourche Parish

Carter-Michael No. 1 E. S. Bernard, sec. 26-21s-22e. Drlg. 600 ft.
Gulf Oil Corp. No. 4 City of New Orleans, sec. 26-21s-22e. Drlg. sd. 4,691 ft.
Texas Co. No. 50 Leesville, sec. 34-21s-22e. Drlg. sd. 6,580 ft.
Texas Co. No. 51 Leesville, sec. 34-21s-22e. Top salt 5,793 ft.; prep. to stdrk.

New Iberia—Iberia Parish

Crysanthon et al No. 1 Gulf fee, sec. 71-12s-7e. T.D. 6,720 ft. R.U. to pump.
H. Fostiades No. 3 Gulf Ld., sec. 25-12s-7e. T.D. 4,507 ft.; 7-in. csg. 4,115 ft.
Wm. Hellis No. 4 Boliver, sec. 56-12s-7e. R.U.
Wm. Hellis No. 3 Bullock, sec. 52-12s-7e. T.D. 4,265 ft.; 7-in. csg. 3,857 ft.; W.O.C.
Wm. Hellis No. 3 Sabatier, sec. 54-12s-7e. T.D. 2,850 ft.; W.O.C.
Wm. Hellis No. 2 Schwing, sec. 56-12s-7e. T.D. 6,761 ft.; P.B. 5,261 ft.; W.O.C.
Kitos et al No. 3 Sealy, sec. 36-12s-7e. 9⅝-in. csg. 874 ft. Drlg. sh. 2,312 ft.
Texas Co. No. 2 Bryant, sec. 25-12s-7e. T.D. 1,127 ft.; rng. surf. csg.
Texas Co. No. 1 Clementine, sec. 25-12s-1e. T.D. 7,354 ft.; salt; P.B.; sdtrkd. 4,090 ft.; drlg. sd. 5,288 ft.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 3 Thomas, sec. 11-9s-4w. Drlg. sh. and L. 5,454 ft.
Shell Pet. Corp. No. 6 Kratzer, sec. 12-9s-4w. 10¾-in. csg. 2,454 ft.; cg. sd. 8,621 ft.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-14e. S.D. 4,341 ft.
Pan American Prod. Co. No. 7 United Ld., sec. 15-10s-4e. Drlg. sh. 2,360 ft.

St. Martinsville—St. Martin Parish

Continental Oil Co. No. 1-A fee, O.W.D.D. Old T.D. 8,150 ft.; P.B. and sdtrkd. at 6,310 ft.; drlg. sh. 6,485 ft.

Starks—Calcasieu Parish

J. R. Turnbull No. 1 Industrial Lbr. Co., sec. 20-9s-12w. Drlg. sh. 4,606 ft.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 834 fee, sec. 20-9s-10w. T.D. 4,469 ft.; P.B. 2,327 ft.; drlg. 4,290 ft.; P.B. 2,350 ft.
Union Sulphur Co. No. 838 fee, sec. 20-9s-8w. T.D. 4,536 ft.; 7-in. csg. 4,480 ft. I.P. 633 B.P.D. through ¼-in. ck.
Union Sulphur Co. No. 841 fee, sec. 29-9s-8w. Drlg. sdy. sh. 2,725 ft.
Union Sulphur Co. No. 842 fee, sec. 29-9s-10w. Drk.

Tepetate—Acadia Parish

Continental Oil Co. No. 8-A Homeseekers Dev. Co., sec. 29-7s-2w. Drlg. sh. 7,330 ft.
Continental Oil Co. No. 9-A Homeseekers Dev. Co., sec. 29-7s-2w. Drk.
Continental Oil Co. No. 1-D Homeseekers Dev. Co., sec. 29-7s-2w. R.U.
Continental Oil Co. No. 2-D Homeseekers Dev. Co., sec. 29-7s-2w. R.U.
Continental Oil Co. No. 1-G Homeseekers Dev. Co., sec. 22-7s-2w. Drlg. sh. 7,212 ft.
Continental Oil Co. No. 1 L. J. Ortego, sec. 29-7s-2w. T.D. 8,317 ft.; 5¾-in. csg. I.P. 361 B.P.D. through 5/32-in. ck.
Continental Oil Co. No. 1-A Young, sec. 29-7s-2w. Drk.
Continental Oil Co. No. 2-B Young, sec. 29-7s-2w. T.D. 8,318 ft.; 5¾-in. csg. on bottom; I.P. 241 B.P.D. through 3/16-in. ck.

Vinton—Calcasieu Parish

Vinton Pet. Co. No. 9 Harmong, sec. 34-10s-12w. T.D. 2,979 ft.; 4½-in. csg. 2,900 ft.; would not flow; R.U. to pmp.

White Castle—Calcasieu Parish

Shell Pet. Corp. No. 4 Shingle, sec. 12-11s-12e. Drlg. sdy. sh. 8,072 ft.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. S.D. 5,047 ft.
Humble O. & R. Co. No. 1 Nordyke, sec. 23. 13⅜-in. csg. cmtd. 2,130 ft.; W.O.C.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 165 ft.; T.D. 2,870 ft.; 7-in. csg. 2,766 ft.; shot well; failed to stop flwg. S.W.; S.D.

Avoyelles Parish

Coastal Mineral Dev., Inc., No. 1 Purdy-Hess, sec. 25-2n-3e. Drk.
George Conover No. 1 Purdy-Hess, sec. 36-2n-3e. Drk.
Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3n-4e. Drk.

Calcasieu Parish

Union Sulphur Co. No. 1 M. P. Erwin, sec. 10-10s-8w. 10¾-in. csg. 1,296 ft. Drlg. sd. 6,425 ft.
Wilfred Lahaye No. 1 Bass, sec. 9-10s-12w. S.D. 80 ft.

Cameron Parish

Pure Oil Co. No. 1 Mallard Bay, sec. 22-13s-3w. 18⅝-in. csg. 1,499 ft.; drlg. sh. 7,481 ft.
Southern Sulphur Co. No. 2 State, sec. 29-15s-10w. Drlg. sh. and sd. 550 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 40-8s-2e. S.D. 6,623 ft.
Cavalier Oil Co. No. 1 Young, sec. 62-4s-2w. Drk.
La. Crusader Oil Co. No. 1 State University, sec. 65-7s-1w. S.D. 6,623 ft.

East Feliciana Parish

East Feliciana Oil No. 1 West & Budding, sec. 37-1s-1w. Spudded 15 ft. and S.D.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 1 Wilbert, sec. 67-9s-11e. Top salt 4,191 ft.; drlg. salt 4,218 ft.

Iberia Parish

Jefferson Lake Oil Co. No. 413 State Lake Pigneur, Twp. 12s-5e. T.D. 1,076 ft.; rng. surf. csg.
Texas Co. No. 1-B State, Vermilion Bay sec. 16-15s-6e. Drlg. sh. and L. 9,590 ft.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 125 12s-11e. S.D. 1,903 ft.

Jefferson Davis Parish

Shell Pet. Corp. No. 1 Joe Sturdivant, sec. 25-10s-4w. 10¾-in. csg. 2,616 ft., T.D. 9,747 ft.; making up D.P.

Lafourche Parish

Wm. Hellis No. 1 City of New Orleans, sec. 19-23s-23e. Drlg. sd. 5,475 ft.
Pan American Prod. Co. No. 1 Harang, sec. 7-17s-20e. Drlg. sh. 5,612 ft.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams, sec. 25-32s-19. Drlg. sd. and shells 2,517 ft.
Tide Water Oil Co. No. 2 Manhattan Fruit Co., sec. 34-21s-22e. Top salt 4,733 ft. T.D. 4,747 ft.; D.S. stuck.

St. Bernard Parish

Gulf Oil Corp. No. 1 Lake Lery, sec. 28-14s-14e. Drlg. 2,680 ft.
Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. T.D. 1,104 ft.; recmtg. csg.

St. James Parish

Shell Pet. Corp. No. 2 Colonial Sugar, 4,800 ft. N of No. 1, sec. 15-12s-5e. Coring sh. 8,333 ft.

St. Landry Parish

Stanley Thompson No. 1 Lewis, sec. 29-5s-6e. Drlg. sh. and sd. 5,590 ft.
Superior Oil Prod. Co. No. 1 Savoie, sec. 26-8s-3e. Cg. sd. and sh. 9,127 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Hefla Ld. Co., sec. 38-8s-5e. T.D. 7,660 ft.; rmg.
Texas Co. No. 9 St. Martin, sec. 21-8s-7e. R.U.

St. Mary Parish

Texas Co. No. 1 Horse Shoe Bayou, sec. 40-17s-9e. Drlg. L. 9,045 ft.

Terrebonne Parish

Humble O. & R. Co. No. 1 H. J. Ellender, sec. 23-19s-19e. T.D. 8,757 ft.; rng. csg.
Shell Pet. Corp. No. 1-B Realty, sec. 13-17s-15e. T.D. 2,529 ft.; rng. cg. test.

Vermilion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. T.D. 11,732 ft.; circulating

with mud; well tried to blow out; fsg. for stuck D.S.; hole cleaned to 10,680 ft.; set cmt.; P.B. to 10,800 ft.; sdtrkd. at 10,800 ft.; cg. sh. 11,761 ft.

Delcambre & Shelton No. 1 Delcambre, sec. 63-12s-6e. S.D. 2,708 ft.

Stanolind O. & G. Co. No. 1 Fred Stovall. 13⅜-in. csg. 1,980 ft.; drlg. sh. 9,276 ft.

TEXAS

Week Ending December 12

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 10 Diemar, Wm. Hardy Sur. T.D. 3,522 ft.; 7-in. csg. 3,490 ft.; W.O.C.

Humble O. & R. Co. No. 4 Duncan, J. E. Groce Sur. Drlg. sh. 1,900 ft.

Hastings—Brazoria County

W. L. Goldson No. 2 fee, B.B.B.&C. Sur. T.D. 6,088 ft.; rng. 7-in. csg.

Humble O. & R. Co. No. 1 Berkheiman, B.B.B.&C. Sur. R.U.

Humble O. & R. Co. No. 5 Brown, W. H. Snyder Sur. 10¾-in. csg. 1,649 ft. T.D. 6,080 ft.; 5½-in. csg. 5,995 ft.; I.P. 28 B.P.H. through ¼-in. ck.

Humble O. & R. Co. No. 7 Brown, W. H. Snyder Sur. 10¾-in. csg. 1,619 ft.; T.D. 6,222 ft.; 5½-in. csg. 5,997 ft.; drlg. plug to 6,090 ft.; rng. screen.

Humble O. & R. Co. No. 1 Graham and Allen, B.B.B.&C. Sur. Drk.

Humble O. & R. Co. No. 1 King, H.T.&B. Sur. Drk.

Showers and Monterief No. 1 L. Hughey, C of 10-ac. tr., H.T.&B. Sur. No. 20. T.D. 6,080 ft.; 7-in. csg. 5,923 ft.; comp.; no gauge.

Stanolind O. & G. Co. No. 1 Blount, B. T. Masterson Sur. 10¾-in. csg. 1,675 ft. drlg. L. 5,494 ft.

Stanolind O. & G. Co. No. 5-B Brown, H. T.&B. Sur. No. 29. Drk.

Stanolind O. & G. Co. No. 6 Drake, H.T.& B. Sur. No. 36. 10¾-in. csg. 1,842 ft.; T.D. 6,080 ft.; 7-in. csg. 5,907 ft.; I.P. 13 B.P.H. through ¼-in. ck.

Stanolind O. & G. Co. No. 8 Ford, A.C.H. &B. Sur. Drlg. sh. 1,050 ft.

Stanolind O. & G. Co. No. 8 Ford, A.C.H.& B. Sur. No. 1. Drk.

Stanolind O. & G. Co. No. 1 Lang, H.T.& B. Sur. No. 29. Cg. sd. 5,515 ft.

Stanolind O. & G. Co. No. 2 Scott, H.T.& B. Sur. No. 29. Cg. sd. 5,926 ft.

Stanolind O. & G. Co. No. 1 Sheffield, H. T.&B. Sur. No. 29. Drk.

Stanolind O. & G. Co. No. 2 Surface, B.B. B.&C. Sur. 10¾-in. csg. 1,874 ft.; T.D. 6,100 ft.; 7-in. csg. 6,058 ft.; W.O.C.

Lockridge—Brazoria County

Gulf Oil Corp. No. 1 K. M. Gibson, J. W. Hall Sur. Drlg. sdy. L. 4,710 ft.

Gulf Oil Corp. No. 1 Fred Reiss, J. W. Hall Sur. Drlg. sd. 4,957 ft.

Shell Pet. Corp. No. 1 Prison Farm, J. W. Hall Sur. R.U.

Manvel—Brazoria County

Bowles & Borsodi No. 4 Norvell Co., Inc., H.T.&B. Sur. No. 23. R.U. and S.D.

Burton Drlg. Co. No. 1 C. H. Orr, A.C.H. &B. Sur. No. 92. Drlg. sh. 2,290 ft.

Harrison & Abercrombie No. 3 Lewellen, Lot 15, A.C.H.&B. Sur. T.D. 5,675 ft.; I.P. 25 B.P.H. through ¼-in. ck.

Harrison and Abercrombie No. 2 Stratton. Drk.

Philtop O. & G. Co. No. 1 R. W. Frost, C Lot 117, E. Little Sur. T.D. 4,129 ft.; abd.

E. A. Stone No. 1 Nichols, E. Little Sur. Drk.

Texas Co. No. 1 A. Ellis, H. H. Little Sur. Old T.D. 5,738 ft.; sdtrkd. 3,539 ft.; abd. 5,450 ft.

Texas Co. No. 5 Leider, H. N. Little Sur. Drk.

Old Ocean—Brazoria County

Harrison and Abercrombie No. 3 Bernard River, Charles Breen Sur. T.D. 6,072 ft.; 9⅝-in. csg. 6,070 ft.; W.O.C.

Heyser—Calhoun County

Humble O. & R. Co. No. 6-B P. H. Welder, A. Sisneros Sur. T.D. 4,890 ft.; rng. csg.

Humble O. & R. Co. No. 6-A P. H. Welder, J. M. Rios Sur. Drlg. sh. 5,480 ft.

Humble O. & R. Co. No. 7-A P. H. Welder, A. Sisneros Sur. R.U.

Portilla Oil Co. No. 2-C P. H. Welder, A. Sisneros Sur. Drlg. sh. 5,260 ft.

Portilla Oil Co. No. 3 Welder, Sisneros Sur. Abd. 5,505 ft.

Portilla Oil Co. No. 6-C P. H. Welder, A. Sisneros Sur. R.U.

Anahuac—Chambers County

Gulf Oil Corp. No. 1 Acom, sec. 45, H.& T.C. Sur. Drk.

Humble O. & R. Co. No. 3 Boyt, sec. 44, H.&T.C. Sur. T.D. 7,128 ft.; I.P. 12 B. P.H. through ¼-in. ck.

Humble O. & R. Co. No. 10 Broussard-Hebert, sec. 59, H.&T.C. Sur. Drk.

Humble O. & R. Co. No. 11 Broussard-Hebert, sec. 59, H.&T.C. Sur. Loc.

Gulf Oil Corp. No. 1 Wilcox, sec. 48, H.& T.C. Sur. Drlg. sh. 2,415 ft.

Humble O. & R. Co. No. 4 Marshall, sec. 50, H.&.T.C. Sur. 10¾-in. csg. 1,530 ft. cg. sd. and sh. 6,997 ft.

Humble O. & R. Co. No. 25 Middleton, sec. 58, H.&T.C. Sur. Drk.

Humble O. & R. Co. No. 4-B White, J. McGahey Sur. T.D. 7,129 ft.; 5½-in. csg. 7,115 ft.

Humble O. & R. Co. No. 18 White, J. McGahey Sur. T.D. 7,132 ft.; swbd. dry; pulling screen.

Cotton Lake—Chambers County

R. W. Fair No. 1 Ben Dutton, A. B. J. Winfree Sur. Abd. 6,407 ft.

Glenn H. McCarthy No. 5 Kilgore, J. Townsend Sur. T.D. 6,309 ft.; 5½-in. csg. 6,304 ft.; tstd. S.W. and oil; tstg. 6,292-98 ft. Placed cmt. retainer at 6,304 ft. I.P. 200 B.P.D. through 11/64-in. ck.; T.P. 1,900 lbs.; C.P. 2,200 lbs.

Glenn H. McCarthy No. 6 Kilgore, J. Townsend Sur. 9⅝-in. csg. 1,800 ft.; T.D. 6,306 ft.; drlg. plug.

Glenn H. McCarthy No. 7 Kilgore, J. Townsend Sur. R.U.

Humble O. & R. Co. No. 2 Howard, Winfree Sur. Loc.

Salt Dome Oil Co. No. 1-A Lawrence, Solomon Barrow Sur. Cg. 6,500 ft.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 4 State, due S of Sun Oil Co. No. 1 Chambers in Turtle Bay. T.D. 1,153 ft.; rng. 10¾-in. csg.

Sun Oil Co. No. 3 Chambers, Chambers County Sch. Ld. T.D. 6,623 ft.; rng. csg.

Big Creek—Fort Bend County

Gulf Oil Corp. No. 72 Davis, M. Young Sur. R.U.

Jenal Oil Co. No. 3 Byron, M. Young Sur. T.D. 3,736 ft.; 7-in. csg. 2,850 ft.; P.B. 2,740 ft.; drld. to 2,552 ft.; P.B. 2,344 ft.; sdtrkd. at 2,476 ft.

Thompson Drlg. Co. No. 1 W. C. Moore, B. Wickerson Sur. S.D. 3,690 ft.

Blue Ridge—Fort Bend County

Barnett Pet. Co. No. 1-B Blakely, Lot 7, Blk. E, Drew Sur. T.D. 3,876 ft. (cor.); R.U. to pmp.

Harry Gordon et al No. 1 Blakely, E. Drew Sur. R.U.

San Jacinto Oil Co. No. 1 Bassett Blakely, E. Drew Sur. Drlg. sh. and L. 2,335 ft.

Texas Gulf Prod. Co. No. 14-B Blakely, J. Poitivent Sur. T.D. 6,168 ft.; abd.

Boling—Fort Bend County

Brewster Trustee No. 3 H. R. Farmer, J. Scott Sur. R.U.

Mack Hank Oil Co. No. 2-A Farmer, J. Scott Sur. T.D. 4,433 ft.; P.B. and sidetracked; T.D. 4,846 ft.; I.P. 630 B.P.D. through 5/16-in. ck.

Mack Hank Oil Co. No. 3-C Farmer, J. Scott Sur. R.U.

H. K. Spear et al No. 1 Kasperek, Simon Miller Sur. 7-in. csg. 3,960 ft.; T.D. 4,015 ft.; P.B. 3,882 ft.; swbg.

Orchard—Fort Bend County

Gulf Oil Corp. No. 49 J. M. Moore, Germain Immg. No. 8. T.D. 932 ft.; W.O.C.

Gulf Oil Co. No. 50 Moore Germain Immg. Drlg. 246 ft.

Thompson—Fort Bend County

J. N. Rayzor No. 1 Grimes, Kennedy Sur. Drlg. sh. 5,321 ft.

High Island—Galveston County

Stanolind O. & G. Co. No. 58 Cade, N. Fitzsimmons Sur. Shale 5,891 ft.; no report.

Stanolind O. & G. Co. No. 60-A Cade, M. Duncan Sur. Drk.

Stanolind O. & G. Co. No. 59-A M. Fitzsimmons Sur. Drlg. sdy. sh. 5,664 ft.; (cor.).

Dickinson—Galveston County

Diadem Oil Co. No. 1 Way, P. G. Merritt Sur. Dig pits.

Humble O. & G. Co. No. 1 Boone, W. K. Wilson Sur. 16-in. csg. 213 ft.; cg. sh. 9,068 ft.

Humble O. & R. Co. No. 12-A Stewart, W. K. Wilson Sur. T.D. 8,602 ft.; 7-in. csg. 8,580 ft.; rng. tbg.

Humble O. & R. Co. No. 13-A Stewart, W. K. Wilson. Drk.

Kenben Oil Co. No. 3 Stewart, W. K. Wilson Sur. T.D. 75 ft.; W.O.C.

Kenco Corp. No. 1 Stran, J. S. Sherman Sur. T.D. 8,100 ft.; 7-in. csg. 8,092 ft.

Sinclair Prairie Oil Co. No. 1 W. Weems, W. K. Wilson Sur. Loc.

Smith and MacDannald No. 1 Shelar, J. O. Jones Sur. 16-in. csg. 120 ft.; 10¾-in. csg. 981 ft.; T.D. 8,260 ft.; perf. csg. 8,100-06 ft.; making D.S.T.

Greens Lake—Galveston County

Sun Oil Co. No. 5 Hughes, W. M. C. Baker Sur. Drlg. rk. 4,363 ft.

Batson—Hardin County

Deering et al No. 5 Hooks, Donoho Sur. T.D. 5,259 ft.; tested dry gas on D.S.T. 5,211-43 ft.

Fairbanks—Harris County

Amerada-Stanolind O. & G. Co. No. 2-C Dopslauf, W.C.R.R. Sur., Blk. 1. Loc.

Mykawa—Harris County

Flanagan Prod. Co. No. 2 Minnetex, W. J. Lovett Sur. R.U.

West Prod. Co. No. 10 W. H. Irwin, W. B. Walker Sur. Drk.

South Houston—Harris County

E. A. Showers No. 2 Tate, H.T.&B. Sur. No. 6. T.D. 4,020 ft.; 7-in. csg. 3,930 ft.

Stanolind O. & G. Co. No. 2 Butz, H.T.&B. Sur. No. 6. 9⅝-in. csg. 1,426 ft.; drlg. sh. 2,725 ft.

Stanolind O. & G. Co. No. 4 Holland and Price, H.T.&B. No. 6. Drlg. sh. 3,519 ft.

Stanolind O. & G. Co. No. Drlg. Dist. No. 47. 10¾-in. csg. 1,451 ft. T.D. 4,775 ft.; 7-in. csg. 4,734 ft.; I.P. 268 bbls. in 19 hrs. through ¼-in. ck.

Stanolind O. & G. Co. No. 1 District No. 11. 10¾-in. csg. 1,449 ft.; T.D. 4,545 ft.; P.B. 3,970 ft.; I.P. 256 B.P.D. through ¼-in. ck.

Tysco Oil Co. No. 1 Christy Bros., H. C. Burnett Sur., sec. 4. Drk.

Tomball—Harris County

Humble O. & R. Co. No. 1 C. E. Black, J. Pruitt Sur. Drk.

Humble O. & R. Co. No. 5 H. S. Gebhard, W. Perkins Sur. Drk.

Humble O. & R. Co. No. 6 Holderrieth, J. Pruitt Sur. Drk.

Humble O. & R. Co. No. 3 C. H. Mueller, T. A. Duclose Sur. Drk.

Humble O. & R. Co. No. 15 J. D. Reid, C. Goodrich Sur. R.U.

Humble O. & R. Co. No. 1 Townsite Unit 18, W. Hurd Sur. T.D. 5,574 ft.; I.P. 20 B.P.H. through ¼-in. ck.

Humble O. & R. Co. No. 1 Wyatt, J. Pruitt Sur. T.D. 5,575 ft.; 5½-in. csg. 5,568 ft.

Amelia—Jefferson County

Humble O. & R. Co. No. 2 Phelan, C. Williams Sur. Drk.

Humble O. & R. Co. No. 2 Tyrell-Combest, A. Savery Sur. Drlg. sh. 6,420 ft.

Glenn H. McCarthy No. 1-B Longe, H. Williams Sur. Drlg. sh. 5,286 ft.

Glenn H. McCarthy No. 2-B Longe, H. Williams Sur. T.D. 5,415 ft.; P.B. and strkd. at 3,623 ft.; cg. sd. 6,105 ft.

Stanolind Oil & Gas Co. No. 1 Sarge, H. Williams Sur. T.D. 6,105 ft.; 7-in. csg. 6,105 ft.; perf. csg. 6,103-02 ft.; I.P. 12 B.P.D.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 1 Fitzhugh, McFaddin Sur. 10¾-in. csg. 1,861 ft.; drlg. sd. rk. 2,314 ft.

Fannett—Jefferson County

Gulf Oil Corp. No. 11 Burrell, W. H. Smith Sur. Drlg. sd. and rk. 3,254 ft.

Nome—Jefferson County

Shell Pet. Corp. No. 2 Paggi, Peveto Sur. Cg. sh. 5,945 ft.

Sun Oil Co. No. 3 Paggi, J. W. Kirby Sur. T.D. 6,052 ft.; 7-in. csg. 6,005 ft.; I.P. 155 B.P.D. through 11/64-in. ck.; T.P. 1,325 lbs.; C.P. 1,875 lbs.

Sun Oil Co. No. 4 Paggi, J. W. Kirby Sur. Loc.

Sun Oil Co. No. 5 Paggi, J. W. Kirby Sur. R.U.

Cleveland—Liberty County

Gulf Oil Corp. No. 16-C Kirby. R.U.

Hankamer—Liberty County

Gulf Oil Corp. No. 1 Bernice Hankamer. T.D. 4,331 ft.; R.U. to pump.

Hull—Liberty County

Eclipse Oil Co. No. 1 Barrow. T.D. 5,014 ft.; cut and pull tbg. to 4,000 ft.

Gulf Oil Corp. No. 22 Baldwin, J. Devore Sur. Drlg. sd. and bldrs. 668 ft.

Gulf Oil Corp. No. 71 Phoenix. T.D. 4,101 ft.; 5-in. csg. 3,731 ft.; T.D. 3,587 ft.; R.U. to pump.

Gulf Oil Corp. No. 114 Phoenix, J. Devore Sur. Drlg. gbo. 590 ft.

Republic Prod. Co. No. 67 Dolbear, J. Devore Sur. T.D. 3,600 ft.; sdtrkd. at 2,037 ft.; drlg. 2,091 ft.

Republic Prod. Co. No. 86 Dolbear, J. Devore Sur. Drlg. sh. 2,749 ft.

Esperson—Liberty County

General Crude Oil Co. No. 22 Moores Bluff, M. Duncan Sur. Drlg. sh. 1,900 ft.

General Crude Oil Co. No. 25 Moores Bluff, M. Duncan Sur. T.D. 3,254 ft.; 7-in. csg. 3,241 ft.; W.O.C.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 J. H. Crocker, E. Hall Sur. 13⅜-in. csg. 1,260 ft.; 9⅝-in. csg. cmtd. at 6,500 ft.; drlg. sh. 8,430 ft.

Hawkinsville—Matagorda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft.; base salt 2,099 ft.; drlg. sh. and L. 2,153 ft.

Markham—Matagorda County

Hamill and Hamill No. 6 Hudson, Henry Parker Sur. T.D. 4,332 ft.; making D. S.T.

Hamill and Hamill No. 6 Kountze, Henry Parker Sur. R.U.

Superior Oil Co. No. 1-B Hawks, W. H Gainer Sur. T.D. 6,055 ft.; tstd. S. W through perf. csg. 4,518-32 ft. No report.

Texas Gulf Prod. Co. No. 1 McDonald, I. &G.N. Sur., sec. 5. R.U.

Texas Gulf Prod. Co. No. 1 Hudson, Henry Parker Sur. Drlg. 1,500 ft.

Van Vleck—Matagorda County

Skelly Oil Co. No. 11-B Cobb, M. Cummins Sur. T.D. 8,258 ft.; tested S.W. 8,238-44 ft.; made squeeze job; testing 7,938-58 ft.

Skelly Oil Co. No. 12-B Cobb, M. Cummins Sur. T.D. 7,522 ft.; perf. csg. 7,485-93 ft.; I.P. 334 bbls. in 21 hrs. through 3/16-in. ck.

Skelly Oil Co. No. 13-B Cobb, M. Cummins Sur. T.D. 7,493 ft.; 5¾-in. csg. 7,493 ft.; I.P. 790 B.P.D. through ¼-in. ck.; T.P. 1,275 lbs.; C.P. 1,125 lbs.

Conroe—Montgomery County

Feltex Oil Co. No. 3 Keystone Mills, L. Smith Sur. R.U.

Humble O. & R. Co. No. 1 Pressler, H. Pressler Sur. Drlg. sh. 831 ft.

Humble O. & R. Co. No. 1 Urech, R. Kuykendall Sur. 9⅝-in. csg. 491 ft.; T.D. 5,168 ft.; I.P. 20 B.P.H. through ¾-in. ck.

Strake Pet. Co. No. 7-B Bean, Lynch Sur. 10¾-in. csg. 887 ft.; drlg. 1,590 ft.

Steinberger Pet. Co. No. 1 Koonce, D. W. Collins Sur. Drlg. 3,027 ft.

Sun Oil Co. No. 23 Keystone, L. Smith Sur. T.D. 5,033 ft.; 7-in. csg. 5,005 ft.

Ace—Polk County

Peyton Bros. No. 1-B Kirby West Lmbr. Co., G. S. Thomas Sur. Drlg. sh. 3,906 ft.

Greta—Refugio County

Hewitt & Daugherty No. 34 Lambert, Swisher Sur. T.D. 5,912 ft.; 5½-in. csg. I.P. 576 B.P.D. through ¼-in. ck.

Hewitt & Daugherty No. 35 Lambert, Swisher Sur. T.D. 5,905 ft.; tstg.

United Gas Co. No. 32 Lambert, Swisher Sur. T.D. 5,912 ft.; 7-in. csg. 5,897 ft.

United Gas Co. No. 33 Lambert, Hardwick Sur. Drlg. 3,878 ft.

United Gas Co. No. 34 Lambert, Swisher Sur. Drk.

United Gas Co. No. 12 J. J. O'Brien. Drlg. sh. 3,847 ft.

Quintana-O'Connor—Refugio County

Quintana Oil Co. No. 8-C O'Connor, Main Sur. T.D. 5,916 ft.; I.P. 1,463 B.P.D. through ¼-in. ck.

Quintana Oil Co. No. 41-A O'Connor, Swisher Sur. T.D. 5,833 ft.; 5½-in. csg. I.P. 585 B.P.D. through ⅝-in. ck.

Quintana Oil Co. No. 42 O'Connor, Swisher Sur. Spudded.

Quintana Oil Co. No. 2-A Reilly, Ximines Sur. T.D. 5,890 ft.; tstg.

Keran—Victoria County

Gulf Oil Corp. No. 9 Keran, M. Delean Sur. Drlg. sh. 3,000 ft.

Placedo—Victoria County

American Liberty Oil Co. No. 5 Cortez, J. M. Brownson Sur. No. 8. T.D. 4,775 ft.; 7-in. csg. 4,748 ft.; W.O.C.

Barnsdall-American Liberty Oil Co. No. 5 J. M. Pickering, S.A.&M.G. Sur. T.D. 4,775 ft.; I.P. 215 B.P.D. through 3/16-in. ck.

Barnsdall-American Liberty Oil Co. No. 6 J. M. Pickering, A. Murry Sr. Drk.

Barnsdall-American Liberty Oil Co. No. 11 Pickering and Ross, S.A.&M.G. Sur. No. 5. Drk.

Commonwealth Oil Co. No. 4 Prencia, J. M. Brownson Sur. No. 8, Lot 81. T.D. 4,776 ft.; 7-in. csg. 4,765 ft.; W.O.C.

Magnolia Pet. Co. No. 3 Henderson and Pickering, Wm. Rupley Sur. T.D. 4,792 ft.; P.B. 4,700 ft.; T.D. 4,775 ft.; 7-in. csg. 4,732 ft.; I.P. 400 B.P.D.; pmpg.

Magnolia Pet. Co. No. 1 Sklar, S.A.&M.G. Sur. R.U.

Ownby No. 4 Malek, S.A.&M.G. Sur. R.U.

Clay Creek—Washington County

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur. 7-in. csg. 7,445 ft.; swbd. and flwd. 10 bbls. oil in 10 hrs.; T.D. 7,502 ft.; fsg.

Five Corners—Wharton County

Texas Co. No. 5-B Pierce, A. H. Pierce Sur. R.U.

Louise—Wharton County

Pure Oil Co. No. 5 Stewart, Morris and Cummins Sur. No. 25. T.D. 5,150 ft.; rng. csg.

Pure Oil Co. No. 4 Weaver, J. M. Brownson Sur. No. 22. Drlg. sh. and L. 3,969 ft.

Magnet—Wharton County

C. E. McDonald No. 1 Sweet, J. Smith & McKenzie Sur. Loc.

Pickett Ridge—Wharton County

Texas Co. No. 3 Nilson. I.&G.N. Sur. No. 307. Drlg. gbo. 1,967 ft.

Withers—Wharton County

Texas Co. No. 17-C Pierce, Wm. Pettus Sur. T.D. 5,558 ft.; 7-in. csg. 5,551 ft. I.P. 115 bbls. oil, 50% S.W.; killed; pulling screen.

Texas Co. No. 18-C Pierce, Wm. Pettus Sur. Drlg. sh. and L. 3,355 ft.

Texas Co. No. 19-C Pierce, Wm. Pettus Sur. R.U.

GULF COAST WILDCATS

Austin County

R. L. Hopkins No. 1 J. W. Recnecke, J. Stephenson Sur. R.U.

W. H. Mitchell et al No. 1 F. Fenner, J. Fitzgibbons Sur. S.D. 3,417 ft.

Brazoria County

Beatty, Bowles and Borsodi No. 1 Truska, Lot 4, Blk. 8, H.T.&B. Sur. 9⅝-in. csg. 6,430 ft. Drlg. sh. 7,016 ft.

Texas Co. No. 1 Robbins, J. W. Brougham Sur. 11¾-in. csg. 4,950 ft. T.D. 6,451 ft.; making up drill pipe.

Calhoun County

Matagorda Oil Co. No. 1 Brundet, Tr. 8, Matagorda Island. 13⅜-in. csg. at 1,826 ft.

Chambers County

Laverne Deeker No. 1 Johnson, M. O. Perkins Sur. No. 30. R.U.

Sun Oil Co. No. 2 Hamilton, J. T. White Sur. 13⅜-in. csg. 1,385 ft.; T.D. 8,869 ft.; 8⅝-in. csg. at 8,715 ft. Found split in csg. at 3,392-3,422 ft. Made squeeze job; drlg. plug.

Colorado County

Coyle-Concord & Sterling No. 1 Mary E. South, I.&G.N. Sur., sec. 41. T.D. 6,189 ft; 5½-in. csg. 6,187 ft.; P.B. 6,055 ft.; swabbing.

Fort Bend County

Sam Harrison No. 1 Victor Horak, H.&T. C. Sur. No. 36. Drlg. sh. 2,004 ft.

Galveston County

Shell Pet. Corp. No. 1 Maco Stewart, Spillman Sur. 9⅝-in. csg. 7,707 ft.; T.D. 10,460 ft.; P.B. 5,170 ft.; perf. csg. 5,120-30 ft.; I.P. 24 B.O.P.D. through ¼-in. ck.

Grimes County

Fred Harris No. 1 J. C. Chaney, W. Donoho Sur. 10¾-in. csg. 100 ft.; drlg. sh. 1,961 ft.

Hardin County

Republic-Houston Oil Co. No. 2 Brooks, G.W. Brooks Sur. (relief well). Cmtd. 7-in. csg. 7,027 ft.; T.D. 7,071 ft. T.D. of strkd. hole 7,196 ft.; tested S.W.: P.D. 5,714 ft.; strkd. at 5,714 ft.; drlg. sh. and L. 6,067 ft.

Republic Prod. Co.-Houston Oil Co. No. 3 fee, G. W. Brooks Sur. T.D. 6,979 ft. oil sd.; 7-in. csg. 6,946 ft.; drlg. plug.

Harris County

D. B. Cherry et al No. 1 Bert J. Dodge, Josiah Harrell Sur. S.D. 1,660 ft.

Farrel and Cox No. 1 Bender, N. W. Travis Sur. R.U.

George Lawrence et al No. 1 Zoppa, J. Farwell Sur. 10¾-in. csg. 605 ft. Drlg. sh. 5,264 ft.

Stanolind O. & G. Co. No. 1 Warren Minerals, H.T.&B. Sur. No. 1. Loc.

Jefferson County

D. B. MacDaniel No. 1 J. N. Gilbert Est., J. Ricard Sur. Drlg. sh. 3,712 ft.

Sun Oil Co. No. 2 Broussard & Hebert, T.&N.O. Sur. T.D. 8,217 ft.; W.O.C.

Lavaca County

Cole Pet. Co. No. 1 Reed-Nollkamper, A. Smothers Sur. S.D. 2,395 ft.

Welshire Union Oil Co. No. 1-A Pohl, F. Bass Sur. S.D. 1,796 ft.

Liberty County

J. G. Mayo et al No. 1 Dunman, John Cherry Sur. Drlg. sh. 5,902 ft.

Matagorda County

Continental Oil Co. No. 1 Hawkins, D. McCarthy Sur. 10¾-in. csg. 1,621 ft.

Continental Oil Co. No. 2 Robbins, J. C. Franz Sur. T.D. 200 ft.; setting conductor pipe.

Jack Frazier No. 1 R. A. Estill, Tone and Jameson Sur. O.W.D.D.; T.D. 6,868 ft.; P.B. 5,831 ft.; abd. 6,385 ft.

J. G. Mayo and Smith and McDannald No. 1 E. L. Calhoun, David Rawls Sur. Loc.

Strake Pet. Co. No. 1 G. T. Sargent, L. E. Parker Sur. 13⅜-in. csg. 1,607 ft. T.D. 6,880 ft.; D.S. stuck; washing over D.S.

Tetts & Harris No. 1 Pierce, Lot 23, W. E. Wallace Sur. S.D. 7,723 ft.

Texas Gulf Prod. Co. No. 1 Wadsworth, D. McCarthy Sur. O.W.D.D.; T.D. 8,853 ft.; pulling 2½-in. tbg.

Montgomery County

Chapman No. 1 Foster, D. Pevy House Sur. 10¾-in. csg. 42 ft.; T.D. 1,303 ft.; W.O.C.

Polk County

J. F. Dorrance et al No. 1 Sarah Wings, sec. 15, I.&G.N. Sur. T.D. 5,170 ft.; making D.S.T.

Refugio County

Tide Water Oil Co. No. 1 Landgarf, J. Collyer Sur. Abd. 8,506 ft.

Trinity County

Daniel E. Boone No. 1 Tullis, Wm. Watson Sur. T.D. 42 ft.; W.O.C.

Cortez Oil Co. No. 1 V. and R. Kennedy, J. M. Prado Sur. R.U.

Tyler County

Republic Prod.-Houston Oil Co. No. 1 Hurd, Norman Hurd Lge. 16-in. csg. 47 ft.; 10¾-in. csg. 1,649 ft.; drlg. sdy. sh. 7,033 ft.

Victoria County

Magnolia Pet. Co. No. 1 Willie Beck, T. &N.O. Sur. 13⅜-in. csg. 920 ft.; T.D. 4,812 ft.; rng. csg.

Plymouth Oil Co. No. 1 J. J. Welder, S. A. Balding Sur. T.D. 6,648 ft.; P.B. and stuck D.S. at 3,270 ft.

Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur. R.U.

A. U. Morrison No. 1 W. D. Nolte, Wm. Hodge Sur. Drlg. sh. and L. 1,420 ft.

Roswell Oil Co. No. 1 J. Bosborn, J. Jordan Sur. S.D. 520 ft.; no report.

Washington County

Stapper Pet. Corp. No. 1 W. H. Hoxie, S. Clampit Sur. Drlg. sh. 2,280 ft.

Wharton County

Felmont Oil Corp. No. 1 G. Mitchell, D. Wade Sur. T.D. 8,065 ft.; sdtrkd. at 2,788 ft.; cored gas sd. 2,986-3,015 ft., T. D.; prep. to test.

S. W. TEXAS WILDCATS

Aransas County

Barnsdall Oil Co. No. 1 Kate J. Edwards, 80 ft. W line, 330 ft. S line, Lot. 87, Lamar Townsite, Wm. Lewis Sur. Set csg. 1,200 ft.; W.O.C.

Atascosa County

Frontier Oil Co. No. 1 Oppenheimer, John Sharp Sur. T.D. 150 ft.; S.D.

Helvetia Oil Co. No. 2 S. Pratt, 333 ft. SE and SW lines tr., Garza Sur. 46. Top Serp. 3,085 ft.; swbg. 3,460 ft.

McNeill Pet. Corp. No. 1 Tom, 5 mi. N of Whitsett. No report.

L. G. Priest No. 1 Sanders, Garmon Sur. Drlg. 1,167 ft.

E. Thompson et al No. 1 Elder, 330 ft. N and W lines, Sur. 190. Loc.

Bandera County

A. T. Crane No. 1 Watson, Sur. 71. Drlg. 2,046 ft.

Bastrop County

Lee P. Ross No. 1 Caldwell, 10 mi. S of Bastrop. Drlg. 2,552 ft.

Bee County

Benson & Jones No. 1 Ray, Anna Burk Sur. S.D. in sdtrkd. hole 2,000 ft.

LaSalle Oil Co. No. 1 Ray, 360 ft. E line, 330 ft. N line, 40-ac. tr., Anna Burks Sur. Sdtrkd. 1,192 ft.; drlg. in sdtrkd. hole 3,912 ft.

Blanco County

E. L. Nixon No. 1 Hornberger, 1,200 ft. S line, 300 ft. E line, Sur. 723. Drlg 447 ft.

Brooks County

California Co. No. 2-B Garcia, 1,395 ft. N line, 330 ft. W line, Tr. 3, La Mestina Gr. T.D. 2,452 ft. Blew out from gas sd. 2,448 ft.; making sulfur wtr., mud and gas; shut in; closed-in C.P. 260 lbs.; circulating.

Douglass & Burden, Inc., No. 1 Haller, 300 ft. S and W lines, Sur. 436. Drlg. 909 ft.

Burleson County

M. R. Exploration Co. No. 3 Fountain, Wm. Raleigh Sur. M.I.M.

Red Bank Oil Co. No. 1 Grann, 2,875 ft. S line, 1,500 ft. E line, E. Santel Sur. D.S.T. 6,216-41 ft.; 180 ft. oily mud; some heavy oil 15 min.; no W.P.; to run csg.

Caldwell County

Browne Drlg. Co. No. 1 Blackwell, 409-ac. tr., J. Row Sur. Drlg. 821 ft.

Duval County

Argo Oil Co. & John Clopton No. 1 Smith Corkill, cen. E¼, Sur. 61. R.U.

J. B. Blanchard No. 1 Dinn, 330 ft. N and E lines, Sur. 462. Loc.

Kearny, Gravis et al No. 1 Holzapfel, sec. 42. M.I.M.

Magnolia Pet. Co. No. 1 Labbe ranch, 2,350 ft. W line, 2,586 ft. N line, lse., Sur. 221. Drlg. 2,723 ft.

Oliver Oil Co. No. 1 Luby, Sur. 146. Loc.

Albert Plummer No. 1 Danmier, 990 ft. S line, 330 ft. W line, NE¼ Sur. 58. T.D. 3,800 ft.; M.I. larger rig.

Texas Co. No. 1-C D.C.R.C., sec. 194. T.D. 2,312 ft.; D.&A.

Thomas No. 2 Parr, NE¼ Sur. 2. Drlg. 4,336 ft.

Edwards County

I.T.I.O. No. 1 Love & Evans, sec. 66, Blk. 3, G.W.T.&P. Ry. Sur. (Workover). Prep. deepen from O.T.D. 3,002 ft. to 6,250 ft.

Plateau Oil Co. No. 1 R. L. Hatch, sec. 66, J. W. May Sur. Drlg. 4,145 ft.

Fayette County

Paul Teas No. 1 Clement Vinklarek, S. Millett Lge. Set csg. in Edwards 7,142 ft. Perf. 7,122-39 ft.; swbg. sulfur wtr.; no show oil or gas; T.D. 7,142 ft.; D.&A.

Goliad County

Rual Singer No. 1 C Wood, Geo. Villa Sur. Loc.

Sun Oil Co. No. 1 Fromme, 330 ft. N line tr., 330 ft. W line, A Martle Sur. Drlg. 5,556 ft.

H. H. Weinert, Inc., No. 4 Runge Loan Co., B.&B. Sur. 36. R.U. and S.D.

Gonzales County

M. S. Holliday No. 1 Edwards, W. W. Page Lge. Sd. 562-69 ft.; S.O.; M.I.M.

Marts & Beavens No. 1 Martindale, J. Robertson Sur. T.D. 3,746 ft.; D.&A.

Guadalupe County

Detroit-Texas Dev. Co. No. 1 Carter, 625 ft. SW line, 170 ft. NW line, 3,000-ac. tr. T.D. 2,356 ft.; comp.; est. 200 B.P.D.

Long & Ross No. 1 Feltz, Dunn Sur. T.D. 633 ft.; S.O.; S.D.

Gordon MacKenzie, 300 ft. N line, 150 ft. W line, J. Kent Sur. Drlg. 1,692 ft.

Hidalgo County

H. J. Porter No. 2 Sweeny Est., Lot. 1, Wayne Wood Subd. No. 2. Cg. 5,592 ft.

Dale Smith No. 1 Fairbanks & Young, Blk. 44, Porc. 46, jurisdiction of Reynosa. Drlg. 1,892 ft.

Jim Hogg County

S. Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 10, Sh. 3, Animas Gr. R.U.

Jim Wells County

Gist & Graddy No. 1 Owens, 660 ft. N line, midway E and W lines Sur. 151. Set 7-in. csg. 2,340 ft.; S.D. 5,308 ft.

G. Tzelmelia (Putnam & Stewart) No. 1 Canales, C Blk. 32, Mosser Subd. (reinstated). S.D. 5,036 ft.

Karnes County

De Graff & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell Lge. Drlg. 223 ft.

Kerr County

S. W. Forrest No. 1 J. W. Baily, 1,000 ft. N line, 330 ft. E line, Brendle Sur. Drlg. 514 ft.

LaSalle County

W. H. Vernon No. 1 Las Abias ranch, 150 ft. N line, midway E and W lines, sec. 726. S.D. 800 ft.

Lee County

Pederson et al No. 1 Turner, David Hudson Sur. T.D. 6,560 ft.; milling 3,600 ft. to sdtrk.

Live Oak County

J. H. Durbin No. 4 Marbach, S. Hays Sur. Sd. 917-22 ft.; set csg.; recementing.

Hagen & Stewart No. 1 S. A. Joint Stock Ld. Bank, 800-ac. tr., John Turner Sur. Sd. 546-47 ft.; tried to blow out; circulating.

Loma Oil Co. No. 2 Cardwell, 95-ac. tr., Sparks Sur. Loc.

Loma Oil Co. No. 3 Withers, J. Spark D.&A. 1,021 ft.

Posey & Rountree No. 1 Turner, 510-ac. tr., S. Hays Sur. Drlg. 1,031 ft.

Sun Oil Co. No. 1 James, Pat McGlover Sur. Cg. 4,780 ft.

McMullen County

E. M. Jones No. 1 Ezell, 160-ac. tr., sec. 3, Thos. Adams Sur. Set csg. 180 ft.; W.O.C.

I. D. Ormsby No. 11 Griffith, B. Sparks Sur. D.S.T. 935-40 ft.; showed 90 ft. of mud and oil; D.&A.

Medina County

Joice Oil Co. No. 1-A Medina Irr. Farm Lds., Lot 1, Blk. 34, San Antonio Trust Subd. Drlg. 442 ft.

A. Chmel No. 1 Odem, 160 ft. W line, 493 ft. N line tr., Castro Sur. 174. M.I.M.

R. P. Whitfield No. 1 Odem, Henry Castro Sur. 177. Cg. 697 ft.

W. H. Wycoff No. 1 Bendele, 1,275 ft. W line, 150 ft. N line, Joe Barnhart Sur. 593. S.D. 200 ft.; (cor.).

Nueces County

Allen and Seaboard Oil Corp. No. 1 Chapman, 660 ft. N and E lines, sec. 80, Laurels Farm Trs., Rincon de Corpus Christi Sur. T.D. 7,205 ft.; D.&A.

Renwar Oil Corp. No. 1 Willoughby, 3,500 ft. SE N cor. 860-ac. tr., 330 ft. Petrovilla tr., sec. 4-G, Garret Subd. Drlg. 4,372 ft.

Geo. E. Smith No. 1 Carter, C NW¼, SE¼, sec. 8, Laurels Farms Trs. Drlg. 6,507 ft.

Steve Paul No. 1 Smith, 1,650 ft. E line, 330 ft. S line, sec. 38, Flour Bluff Encinal Trs. Loc.

Wellington Oil Co. No. 1 Stockton, 300 ft. S and W lines, NE¼, sec. 25. Sd. 4,720-26 ft.; tstd. 700 ft. oil and 500 ft. S.W.; rmg. 5,850 ft.

Real County

Sun Oil Co. No. 1 Dietert, 1,980 ft. E line, 660 ft. S line, sec. 7, G.W.T.&B. Sur. Drlg. 1,753 ft.

San Patricio County

W. B. Craig No. 1 Nelson, 471 ft. NE line, 466 ft. SE line, S¼, sec. 7, 1st Addn. Loc.

Eleanor Oil Co. No. 1 Kline, Lot 5, Blk. "C," Coleman-Fulton Pasture Subd. T.D. 6,840 ft.; P.B. 6,343 ft.; perf. 6,297-6,305 ft.; rng. tbg.

Eleanor Oil Co. No. 1 W. W. Toland, sec. 15, Blk. A, Coleman-Fulton Pasture Subd. Loc.

Hooper-Rutherford, Inc., No. 1 J. D. Willis, 466 ft. S and W lines tr., Williamson Sur. Drlg. 7,213 ft.

Texon Drlg. Co. No. 1 Harvey, 330 ft. N and W lines, Blk. 13, Rincon Subd., Sargent Sur. Drlg. 4,431 ft.

Windsor Oil Co. No. 1 Bissett, Tr. 3, Tivoli Subd., Crockett Sur. Loc.

Starr County

J. F. Anderson No. 1 Yzagierre, Tr. 1, Porc. 79, J. of Camargo. T.D. 2,910 ft.; resume drlg.

H. L. Bass No. 1 Haden, 3,740 ft. S line, 555 ft. W line, Sh. 47, Porc. 80. Set 5½-in. csg. 1,336 ft.; to test.

J. H. Brower No. 1 Saenz, Sur. 363. S.D. 150 ft.

F. Davenport No. 1 Kelsey-Bass, 534 ft. S line, N 585-ac. tr., 2,856 ft. E line, Porc. 87. Set 1,000 ft. of surf. csg.; no report.

Davenport-Slick-Urschel No. 1 Slick Est., Davenport ranch, sec. 485, Cg. 5,047 ft.

R. A. Mitchell No. 2 Bass, Sur. 8, Porcs. 75-77. Drlg. sh. 4,827 ft.

Moss & Heard No. 1 Ricaley, 1,500 ft. N of Highway No. 4, Porc. 83. Drlg. 1,521 ft.

South Coast Oil Co. No. 1 Isabel Lopez, Sh. 40-B, Porc. 80. D.&A. 3,508 ft.

Sun Oil Co. No. 1 Orr, 330 ft. N and W lines, Porc. 103. Set csg. 94 ft.; drlg. 1,693 ft.

Webb County

American Texas Oil Co. No. 1 McKendricks, Porc. 46. Set surf. csg. 200 ft. W.O.C.

French Oil Corp. No. 1 Garcia, Sur. 1,121. Drlg. 2,059 ft.

Lu-Tex Oil Co. No. 1-A Lone Star Constr. Co., Blk. 26, Porc. 12, 13 and 14. Drlg. 672 ft.

Paul Meaders No. 1 Garcia, Blk. 12, Sur. 1,101. Loc.

Rowan & Hope No. 2 Neal, Blk. 2, Sur. 857. Drlg. 1,423 ft.

Superior Oil Co. No. 1 Masterson, 330 ft. S and W lines, Sur. 35. Drlg. 1,472 ft.

Wilcox O. & G. Co. No. 1 Puig, Serna Blanca Pasture, Galan Gr., Sur. 2,182. Drlg. 2,007 ft.

Zapata County

Allison et al No. 1 Bustamante, Sh. 10, Comitas Gr. Drlg. 206 ft.

Gilcrease Oil Co. No. 1 Trevino, 330 ft. NW and NE lines, Blk. 5, sec. 3, Mode Subd. D.&A. 3,750 ft.

Ivan Howard and R. F. Duggan No. 1 Cuellar Bros., Sur. 248. R.U.

Jennings No. 1 Martinez, Sur. 434. T.D. 150 ft.; S.D.

Zavalla County

Wilcox O. & G. Co. No. 1 Gillman, sec. 11. Spudding in.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio Counties

Atlantic Ref. Co. No. 1-C McCampbell, Lot 9, Blk. 41. Drlg. 1,326 ft.; drlg. 5,367 ft.

J. Nelson No. 1 Riggs, 330 ft. NW line, 213 ft. SW line, 6.46-ac. tr., Trs. 12 and 13, Blk. 16. Loc

Hilbig—Bastrop County

Joe E. Mills No. 1 Askew, 600 ft. NW line, 1,525 ft. SW line, 278.5-ac. tr., Wolfenberger Sur. T.D. 2,907 ft.

Caesar—Bee County

Luling O. & G. Co. No. 1 Borroun, 450-ac. tr., Baker Sur. T.D. 3,058½ ft.; D. &A.

Cosden—Bee County

Elwood & Young No. 3 Barnett, John Place Sur. Sd. 3,636-53 ft.; S.O.; P.B. 3,960 ft.; T.D. 4,050 ft.; S.D.; W.O.O.

Ray—Bee County

J. A. West No. 1-B Geo. Ray, W. B. Blanchard Sur. Sd. 3,944-57 ft.; set 5½-in. csg.; W.O.C.

Gas Ridge—Bexar County

American Gas Co. No. 5 Oliver, 400-ac. tr., Rodriguez Sur. Sd. 3,285-3,309 ft.; S.O.

Alta Mesa—Brooks County

California Co. No. 1 Jones, La Mestina de Gonzalina Gr. D.S.T. 1,707-16 ft.; showed gas with strong sulfur odor. Set csg. 3,032 ft.; W.O.C.

Alta Verde—Brooks County

L. & W. Oil Co. No. 1 Wm. Singer, Blk. 8, Sur. 436. S.D. 185 ft.; (cor.).

Nordan & Morris No. 4 Singer, Sur. 312. T.D. 891 ft.; tstd. oil and S.W.; D.&A.

Dick Young No. 5 Singer, Blk. 12, Sur. 312. T.D. sh. 1,022 ft.; D.&A.

Branyon—Caldwell County

Adams & Lyles No. 3 Ellison, D. Cooper Sur. Cg. 2,047 ft.

Lincoln Pet. Co. No. 3 Brown, D. Cooper Sur. Comp.; est. 120 B.P.D.; T.D. 2,240 ft.

Taylor Pet. Co. No. 2 Branyon, D. Cooper Sur. Comp. 15 B.P.D.; T.D. 2,180 ft.

Taylor Pet. Co. No. 1 Caldwell County, 4-ac. tr., D. Cooper Sur. Drlg. 566 ft.

Whisenant & Trenchard No. 1 McGee, John Neil Sur. Drlg. 1,807 ft.

McCroy—Caldwell County

Whisenant & Trenchard No. 1 McGee, John Neil Sur. Drlg. 837 ft.

Charamousca—Duval County

N. V. Duncan No. 1 Wordon-Drought, Sur. 151. T.D. 1,701 ft.; D.&A.

Colmena—Duval County

Conservative Oil Co. No. 2 D.C.R.C.-Sentz, 133 ft. N Eline, 1,200 ft. SE line, Blk. 12, sec. 51. S.D. 1,544 ft.

Driscoll—Duval County

Continental Oil Co. No. 13-A Sevier, Sur. 448. M.I.M.

El Mesquite—Duval County

Hamil & Smith No. 3 J. Benavides, Subd. 2, El Mesquite Gr. R.U.

Rogers & Rogers No. 3 Pena, El Mesquite Gr. R.U.

Government Wells—Duval County

Ralph Ogden No. 10 B.C.C., N½, S½, Sur. 135. Drlg. 2,456 ft.

Hoffman—Duval County

Bridwell Oil Co. and Gorman-Yoakam Drlg. Co. No. 1 Hoffman, Sur. 117. Sd. 2,800-10 ft. Good S.O. Set 7-in. csg. 2,800 ft. W.O.C.; T.D. 2,811 ft.; comp.; est. 50 B.P.D.

Bridwell Oil Co. and Gorman-Yoakam Drlg. Co. No. 1 Martinez, Sur. 118. M. I.M.

Bridwell Oil Co. No. 4-B Sutherland, 330 ft. S and E lines, sec. 112. Set csg. on sd. 2,751-73 ft.; comp.; est. 75 B.P.D.

Rogers & Rogers No. 4-A Hoffman, Sur. 118. Sd. 2,751-73 ft.; completing.

Standard of Kansas No. 8-A Hoffman, Sur. 118. Drlg. 1,831 ft.

Kohler—Duval County

Humble O. & R. Co. No. 2 Peters, 330 ft. N and W lines, Sur. 398. Drlg. O. sd. 2,660 ft.

Sun Oil Co. No. 1 Peters, 330 ft. S and W lines, Sur. 161. Drlg. 2,016 ft.

Labbe—Duval County

Mills Bennett Prod. Co. No. 5 Yates, Sur. 560. Drlg. 2,473 ft.

Loma Novia—Duval County

Bridwell O. Co. No. 15-A Hubbard, Sur. 71. Drlg. 2,421 ft.

Eastern Texas Prod. Co. No. 5 Hubbard, Sur. 71. R.U.

Humble O. & R. Co. No. 17-B Hubbard, 320-ac. tr., Sur. 83. Set screen and liner 2,759 ft.; comp.; 40 B.P.H.; T.D. 2,759 ft.

Humble O. & R. Co. No. 63-B Hubbard, Sur. 83. Set csg. 2,780 ft.; W.O.C.

Humble O. & R. Co. No. 17-C Welder, Sur. 554. T.D. 2,849 ft.; D.&A.

Humble O. & R. Co. No. 20-C Welder, Sur. 554. Drlg. 80 ft.

Magnolia Pet Co. No. 50 Hahl, Sur. 67. Comp.; 8 B.P.H. on ½-in. ck.; T.D. 2,731 ft.

Magnolia Pet. Co. No. 51 Hahl, Sur. 67 R.U.

Magnolia Pet. Co. No. 6 Herbst, Sur. 70. T.D. 2,732 ft.; comp.; 50 B.P.D.

Magnolia Pet. Co. No. 7 Herbst, Sur. 70. Set csg. 2,727 ft.; W.O.C.

R. Ogden No. 1-G Ruiz, 330 ft. S and W lines, 80-ac. tr., sec. 41. Testing sd. 2,588-95 ft.

Rosan Oil Co. No. 4-A Hubbard, Sur. 71. M.I.M.

Sun Oil Co. No. 1-B Hubbard, Sur. 82. Sd. 2,787-92 ft.; oil odor; tested dry. Cg. 2,872 ft.

Loma Vista—Duval County

Atlantic Ref. Co. No. 1-A Welder, Sur. 103. Cg. sh. 2,939 ft.

Lopez—Webb—Duval Counties

Cox & Hamon No. 5 Peters, Sur. 322. Comp.; 5 B.P.H.; sd. 2,086-2,106 ft.

Cox & Hamon No. 12 Peters, Sur. 322. Drlg. 1,527 ft.

Cox & Hamon No. 17 Peters, Sur. 322. Drlg. 2,073 ft.

Cox & Hamon No. 40 Peters, Sur. 322. Loc.

Glen Harroun No. 1-A Lopez, Sur. 110. Set csg. 2,259 ft.; cg. 2,265 ft.

Humble O. & R. Co. No. 1 D.C.R.C., Sur. 901. Loc.

Humble O. & R. Co. No. 3-C D.C.R.C., Sur. 901. R.U.

Magnolia Pet. Co. No. 28 Peal, Sur. 383. Comp.; no gauge; T.D. 2,204 ft.

Mills Bennett Prod. Co. No. 11 Billings, Sur. 113. R.U.

Mortimer & Springer No. 10 M. Lopez, sec. 73. Cg. 2,152 ft.

Sierra Oil & Roy. Co. No. 4 Billings, Sur. 113. Tstg. 2,227 ft.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 3 D.C.R.C., Sur. 97. T.D. 3,250 ft.; P.B.; W.O.C.

Seven Sisters—Duval County

Humble O. & R. Co. No. 15 Badgley, Sur. 307. Set screen and lnr.; comp.; 26 B. P.H.; T.D. sd. 2,507 ft.

Humble O. & R. Co. No. 16 Badgley, Sur. 307. Set csg. 2,495 ft.; W.O.C.

Humble O. & R. Co. No. 17 Badgley, Sur. 307, R.U.

Humble O. & R. Co. No. 36 Smith, Sur. 382. T.D. 2,455 ft.; comp.; 30 B.P.H.

Humble O. & R. Co. No. 37 Smith, Sur. 382. Drlg. sh. 2,450 ft.

Fan American Prod. Co. No. 3-B Welder, 160-ac. tr., sec. 102. Cg. 2,476 ft.

Texas Co. No. 4 Badgley, Sur. 307. Comp.; 361 B.P.D. on ⅝-in. ck.; T.D. 2,506 ft.

Texas Co. No. 6 Badgley, Sur. 307. Drlg. 1,152 ft.

Wellington Oil Co. No. 19-A Welder, Sur. 382. Comp.; 24.12 B.P.H. on ⅝-in. ck.; T.D. 2,465 ft.

Westheimer & Daube No. 25 Campos, Sur. 224. Comp.; 22.8 B.P.H.; top sd. 2,-667 ft.

Westheimer & Daube No. 26 Campos, Sur. 224. Spudded.

Pearsall—Frio County

Amerada Pet. Corp. (Davis) No. 1 Halff & Oppenheimer, 329-ac. tr., J. C. Clare Sur. 356½, (W.O.); flwd. 130 B.P.D. then bridged; swbg. some oil.

Amerada Pet. Corp. No. 8 Halff & Oppenheimer, S. A. Ditch Sur. 1,104. Drlg. 1,817 ft.

Amerada Pet. Corp. No. 7 Oppenheimer, 1,-320 ft. W line, 330 ft. S line, Gibson Sur. 16. (W.O.); drlg. 5,317 ft.

Maetz—Goliad County

Felmont Oil Corp. No. 1 Hoff, B.S.&F. Sur. No. 7. Sd. 3,438-46 ft.; tstg.

North Pettus—Goliad-Karnes Counties

Diamond Halff Oil Co. No. 1-C Gillette, 745-ac. tr., J. Gomez Sur. Sd. 3,668-3,-876 ft.; tstg.

Magnolia Pet. Co. No. 5 Weldon, 210-ac. tr., J. Gomez Sur. Spudded.

Magnolia Pet. Co. No. 6 Welden, J. Gomez Sur. T.D. 4,050 ft.; P.B. 3,724 ft.; comp.; 66 B.P.D.

Sun Oil Co. No. 7 Scarbrough, B.&B. Sur. Drlg. 367 ft.

H. H. Weinert, Inc., No. 1 Porter, Victor Blanco Sur. T.D. 4,466 ft.; D.&A.

Clark—Guadalupe County

R. B. Byrd No. 1 John, Dewitt Sur. T.D. 2,578 ft.; D.&A.

Diamond Halff Oil Co. No. 2 Larison, G. DeWitt Sur. Spudded.

Marts & Bevins No. 1 Grim, G. DeWitt Sur. 13. Spudded.

W. J. Walton No. 3 Hoffman, Sowell Sur. T.D. 2,330 ft.; P.B. 2,270 ft.; to acidize.

Darst Creek—Guadalupe County

Freeman Oil Co. No. 1 Larison, G. DeWitt Sur. 13. Drlg. 1,211 ft.

Mercedes—Hidalgo County

Union Sulphur Co. No. 10 American Rio Grande L. & L. Co., Blk. 50, Tr. 2,418, N. Caprisalio Dist. T.D. 3,306 ft. Cutting tbg. 6,320 ft.

Mestanos—Hidalgo County

McCollum Explin. Co. No. 1-B Engleman, Lot 8, sec. 249. Drlg. 4,610 ft.

McCollum Explin. Co. No. 1 MacDougall, Lot 232, sec. 249. Cg. 6,697 ft.

Samfordyce—Hidalgo-Starr Counties

Harrison & Danvers No. 3 Guerra, 230 ft. N line, 730 ft. E line, Sh. 251, Porc. 38. Oil sd. 2,942-59 ft.; set csg.; W.O.C.

Phillips Pet. Co. No. 2 Seabury, Tr. 256, Porc. 38. Set 10¾-in. csg. 207 ft.; W. O.C.

Weekly Oil Corp. No. 3 Lula George, Sh. 13, Porc. 41. Set 10¾-in. csg. 205 ft.; W.O.C.

Colorado—Jim Hogg County

J. H. Meek, No. 3-A Martinez, 1,650 ft. E line, 1,550 ft. N line, Sur. 623. M.I.M.

Bentonville—Jim Wells County

La Jita Corp. No. 2 Bowers, 330 ft. N line, 990 ft. E line, sec. 14. Drlg. 5,332 ft.

La Jita Corp. No. 3 Bowers, 990 ft. N and E lines, Sec. 14. R.U.

Premont—Jim Wells County

Francis & Simonton No. 1 A. Lozana, Jr., 185 ft. E line, 165 ft. S line, Lot 111, sec. 36. Drlg. 607 ft.

Tom Graham and Gilcrease Oil Co. No. 1 Escobas, 330 ft. N and E lines, Blk. 4, sec. 25, Buffalo-Tex Subd., Escobas ranch. Drlg. sh. 977 ft.

Tom Graham No. 1 Wm. Singer, C Lots 71 and 74, Sur. 76. T.D. 3,400 ft. P.B. 3,163-67 ft.; perf. 3,157-64 ft.

Sandia—Jim Wells County

Geo. Smith No. 1 Wade, Lot 2, Wade ranch. R.U.

J. E. Walsh No. 2 Wade, Lot 2, Blk. C. Bode Subd. Drlg. 2,096 ft.

Kingsville—Kleberg County

E. B. Clark No. 2 Kivlin, 150 ft. N and E lines, Blk. 8, sec. 39, Kingsville T.&O. Subd. T.D. 1,350 ft.; comp.; flwg. sulfur wtr. and 50 B.O.P.D.

Great States Oil Co. No. 1 Kivlin, Blk. 4, sec. 39. R.U.

Lucas—Live Oak County

Houston Oil Co. No. 37 Cartwright, 1,300 ft. W, 300 ft. S, No. 35, F. Botillo Sur. R.U.

Oakville—Live Oak County

Ohio Fuel Oil Co. No. 1 Rosebrocks, Romero Sur. Sd. 2,138-45 ft. Slight show O.&G.; D.S.T. 2,800-07 ft.; rec. 106 ft. P.L.O. and 100 ft. drlg. fluid; 14 min.; sd. 2,797-2,807 ft.; T.D. 2,807 ft.; rng. csg.

Calliham—McMullen County

Joe Coursey No. 3 Lark, Blk. 101, Scrugham Sur. S.D. 1,000 ft.

W. P. Howard No. 6 Claunch, M. Hely Sur. Cg. 427 ft.

Lcma Oil Co. No. 47-A Jacob, sec. 10, Scrugham Sur. Set csg. 945 ft.; drlg. in.

National Pet. Co. No. 2-B Lark, Jacob Sur. Drlg. 135 ft.

Rhodes—McMullen County

Humble O. & R. Co. No. 2 Edrington, 330 ft. S and W lines, SE¼, Sur. 59. Drlg. sh. 1,721 ft.

Ina—Medina County

Ina O. & R. Co. No. 3 Viola Wilson, Durst Sur. Drlg. 400 ft.

Agua Dulce—Nueces County

Lockhart Bros. No. 1 Elliff, 4,501 ft. E line, 466 ft. S line, 3,054.9-ac. tr., Antonio Longorio Gr. Loc.

Stoddart & Moss No. 1- Colman, 330 ft. NW and NE lines, SE¼ SW 330-ac. tr., sec. 206. Drlg. 5,923 ft.

Texon Drlg. Co. No. 1 Elliff, 466 ft. E line, 2,194 ft. S line, 3,054-ac. tr., A. Longorio Gr. (Workover). Drk.

Texon Drlg. Co. No. 2 Elliff, 5,580 ft. S line, 466 ft. E line, 3,054.9-ac. tr., Antonio Longorio Gr. Loc.

Texon Drlg. Co. No. 2-B Sevier, 880-ac. tr., W. W. Chapman Lds., Palto Alto Gr. Set 16-in. csg. 300 ft.; S.D.

United Prod. Corp. No. 2 W. W. Walton, Lot 5, Sh. 1, Chapman Lds. Subd. Sd. 5,330-46 ft.; comp.; no gauge.

Clara Driscoll—Nueces County

Blanco Oil Co. and Buchanan No. 1 W. S. Gandy, 330 ft. S and W lines, E½ sec. 60. Spudded in.

Conroe Drlg. Co. and H. M. Reed No. 1 Meyers, Lot 4, Blk. F, Driscoll townsite, sec. 107. Spd. in.

W. D. Hines No. 1 Sevier, 280 ft. S and E lines, W½, sec. 60. Sd. 5,710-30 ft.; set 5½-in. csg. 6,035 ft.; reported perf. 5,725-50 ft.; making gas and distillate.

Hiram Reed No. 2 Roper, C Lot 1, sec. 108. Perf. 3,901-05 ft.; gas and wtr.; to P.B. and perf. in 3,800-ft. sd. W.O.W.

Magnolia Pet. Co. No. 1 Clara Sevier, 330 ft. N and W lines, 240-ac. tr., R. Russell Sur. Comp.; 10 B.P.H. on ¼-in. ck.; T.D. 3,816 ft.

H. M. Reed No. 1 Holloway, 330 ft. S and E lines, 51.8-ac. tr., sec. 108. R.U. W.O.W.

Wellington Oil Co. No. 1-A Sevier, 125-ac. tr., Wm. Gamble Sur. Drlg. 6,077 ft.

Wellington Oil Co. No. 7 Sevier, 2,310 ft. S line, 330 ft. E line, tr., Wm. Gambel Sur. Sd. 3,803-17 ft.; set csg. 3,809 ft.; W.O.C.

Flour Bluff—Nueces County

Humble O. & R. Co. et al No. 1 Cordez, C Lot 12. Blk. 48. Loc.

Humble O. & R. Co. et al No. 1 Johnson, Blk. 22, sec. 48. R.U.

Humble O. & R. Co. No. 1 Jose Miller, C Lot 26, sec. 47. Perf. 6,644-58½ ft; comp.; no gauge.

Humble O. & R. Co. No. 2 Phillips, C Lot 26, sec. 47. Drlg. 3,814 ft.

Humble O. & R. Co. No. 3 Phillips, C Lot 7, Blk. 48. Drlg. sh. 4,367 ft.

Humble O. & R. Co. et al No. 4 Phillips, C Lot 1, Blk. 55. Loc.

Humble O. & R. Co. No. 1 D. Reed, C Lot 28, Blk. 47. Drlg. sh. 2,983 ft.

Humble O. & R. Co. No. 1 Webb, C Lot 11, Blk. 47. Set csg. 6,680 ft.; comp.; 100 B.P.D. on ½-in. ck.; T.D. 6,680 ft.

Humble O. & R. Co. No. 1 Webster, C Lot 23, Blk. 48. T.D. 6,661 ft.; comp.; 148.9 B.P.D. on ½-in. ck.

S. Paul No. 1 Moulter, Blk. 16, sec. 41, Encinal Garden tracts. Loc.

Saxet Heights—Nueces County

Baltic Drlg. Co. No. 1 Savage-Harrell, C Lot 18, Country Club Addn. Drlg. 1,-926 ft.

Wm. Brady No. 1 Perkins, C Lot 49, Country Club Pl. T.D. 3,117 ft.; D.S. stuck.

Callihan Bros. and Whitley No. 1 Hartley, Villareal Sur. R.U.

J. K. Culton No. 10 Baldwin, 660 ft. SW of No. 9, 330 ft. SE line, lse., Villareal Sur. T.D. sd. 4,083-91 ft.; S.W.; D.&A.

J. K. Culton No. 11 Baldwin, Blk. 19, Russell Farm Lots. Drlg. 607 ft.

D. & S. Drlg. Co. No. 1 Meany, 53.41-ac. tr., Villareal Gr. T.D. 4,129 ft.; D.&A.

Genro & Roosth No. 1 Caddell, C Lots 3, 4 and 5, Blk. "D," Harbor View Ests. Sd. 4,045-80 ft.; set csg. 4,080 ft.; S.D.

Tom Graham No. 2 Carver, 2.5-ac. tr., Ellendale Gardens. Sd. 4,060-4,110 ft.; comp.; 101 B.P.D., 10% S.W. on 3/16-in. ck.; T.D. 4,110 ft.

Chas. F. McGrew No. 3 Kelly, 19-ac. tr. Sd. 4,060-90 ft.; set csg.; completing.

Morgan Bros. No. 2 Bender, Blk. C, Harbor View Estates. T.D. 4,085 ft.; failed to flow; S.D.

W. N. Paul No. 2 Schallert, C Blk. "C," Harbor View Addn. S.D. 1,800 ft.; W.O.

Pedernal Oil Co. No. 1 John, Blk. 14, Oak Park Addn. S.D. 4,110 ft.; orders.

Port O. & G. Co. No. 2 Corpus Christi College, 39.6-ac. tr. Set csg. 4,090 ft.; comp.; 185 B.P.D., 35% S.W. on ¼-in. ck.

Port O. & G. Co. No. 3 Cohen, Villareal Sur. Cg. oil sd. 4,083 ft.

J. D. Proctor No. 1 Simonton, 100 ft. E line, 68 ft. N line, 1-ac. tr., Lots 46 and 47, Country Club Pl. Sd. 4,070½-83 ft.; set csg.; completing.

Renwar Oil Co. and Maryland Corp. No. 2 Guarantee Title & Trust Co., Lot 6, Blk. 9, Villa Gardens. Sd. 4,087-94 ft.; comp.; 6 B.P.H. on 3/16-in. ck.

Saxet O. & G. Co. No. 3 Edwards, 1,371 ft. SW line, 165 ft. NW line, 32-ac. tr. Sd. 4,077-4,118 ft.; tested S.W.; S.D.; W.O.O.

Ben F. Smith No. 1 Whelan, 10-ac. tr., Villareal Gr. Set surf. csg.; W.O.C.

Taylor Pet. Co. No. 2 Incarnate Word College, 40-ac. tr., Villareal Gr. Drlg. 2,316 ft.

Sam Wilson No. 2 Glover Johns, Villareal Sur. Comp.; 10 B.P.H. on ¼-in. csg.; sd. 4,067-76 ft.

Sam Wilson No. 1 Henderson, 125-ac. tr., Blk. 4, Oak Park Addn. Drlg. 2,593 ft.

Sam Wilson No. 1 Vehlinger, Blk. 4, Oak Park Addn. Set csg. 485 ft.; W.O.C.

Saxet—Nueces County

Allen & Morris No. 1 Hocker & Sevier, 330 ft. N Shell Rd., 330 ft. W line, 100-ac. tr. Sd. 4,823-40 ft. Tested 600 ft. oil. Set 7-in. csg. 4,833 ft.; swbg.

C. Andrade No. 3 Franks, 330 ft. N and E lines lse., Sur. 500. Sd. 5,828-34 ft. comp.; no gauge.

C. Andrade No. 1 Morgan, 330 ft. N and E lines lse., Sur. 592. Sd. 4,550-84 ft. Set csg. W.O.C.

Paul Benedum No. 1 Harmon, 330 ft. S and E lines, 50-ac. tr., Sur. 416. Sd. 6,-320-36 ft. Blew out and burned 24 hrs. before shutting in. Stdg. C.P. 1,750 lbs. R.U. to run tbg.

R. B. Bryant No. 5 Frank, 660 ft. E No. 3, 330 ft. S line, Sur. 416. Sd. 5,842-54½ ft.; set csg. 5,871 ft.; W.O.C.

Bryant & Howell No. 1 Kocurek, 330 ft. N and E lines, 58-ac. tr., Smith Sur. 25. T.D. 3,125 ft.; blew out; caught fire; cratering; making gas, mud and some oil.

R. B. Bryant No. 6 Scoggin, 330 ft. N and E lines tr., Sur. 315. Cg. 4,496 ft.

R. B. Bryant No. 9 Scoggin, Sur. 315. Drlg. 3,929 ft.

Conservative Oil Co. No. 2 Morgan-Clark, 330 ft. S and W lines, W½ NW¼ sec. 405. Cg. 4,120 ft.

Conservative Oil Co. No. 2 R. Morgan, 109-ac. tr., Sur. 403. Sd. 5,824-31 ft.; comp.; 192 B.P.D. on 5/32-in. ck.

Conservative Oil Co. No. 1-A Rand Morgan, 80-ac. tr., Sur. 315. Set csg. 4,579 ft.; perf 4,452-55 ft.; comp.

Conservative Oil Co. No. 3-B Rand Morgan, 330 ft. N and W lines, lse., Sur. 403. R.U.

L. Glasscock No. 2 Hunter, 159-ac. tr., Page Sur. Cg. sd. 5,850 ft.; show S.W. S.O. 6,736 ft.; cg. deeper to test 6,-741 ft.

Great States Oil Co. and Violet Oil Corp. No. 7 McGregor-Belk, Sur. 311. D.S.T. 6,318-26 ft.; recd. 1,000 ft. oil, 90 ft. S.W.; sd. 6,208-26 ft.; set csg. 6,326 ft.; W.O.C.

Hiawatha Oil Co. No. 6 Griffith, 330 ft. S line, 3,084 ft. E line, Sur. 416. Drlg. 6,-482 ft.

Hiawatha Oil Co. No. 6 Hutchins-Stillwell, Blk. 30, Sheppard Farm Lots. Set surf. csg. 1,150 ft.; W.O.C.

Hiawatha Oil Co. No. 7 Hutchins-Stillwell, Blk. 30, Sheppard Farm Lots. Cg. 6,-012 ft.

W. B. Hinton No. 5 Cole, 330 ft. N and W lines, 60-ac. tr., Villareal Sur. Sd. 4,-867-76 ft. Perf. 4,863-75 ft.

Houston Oil Co. No. 10 McGregor, 135-ac. tr., Sur. 582. Sd. 5,792-5,823 ft.; comp.; 8 B.P.H. on ⅛-in. ck.

Houston Oil Co. No. 15 Morgan, 493.63-ac. tr. Drlg. surf. 266 ft.

Houston Oil Co. No. 14 Morgan, 2,310 ft. S line, 330 ft. W line, 493-ac. tr. Drlg. sh. 975 ft.

Magnolia Pet. Co. No. 4 W. W. Walton, 150 ft. S Shell Rd., 330 ft. W line lease. Page Sands Sur. Set 10¾-in. csg. 963 ft.; W.O.C.

Pan American Prod. Co. No. 5-D Morgan, 330 ft. S and E lines, W½, SW¼, sec. 405. Set surf. csg.; W.O.C.

Pan American Prod. Co. No. 3-A Morgan, 40-ac. tr. Set csg. 1,150 ft.; drlg. plugs.

Pan American Prod. Co. No. 4-C Morgan 90-ac. tr., Sur. 403. Sd. 6,248-81 ft.; comp.; no gauge.

Pan American Prod. Co. No. 3-A Sagarin, 39-ac. tr. Sd. 5,813-28 ft.; set csg.; W. O.C.

Pan American Prod. Co. No. 3-B Sagarin, Sur. 500. T.D. 5,027 ft.; fsg.

Phillips Pet. Co. No. 5 Hutchins, 60-ac. tr., Blks. 29 and 30, Sheppard Farm Lots. Sd. 5,821-35 ft.; cg. ahead 5,845 ft.

Phillips Pet. Co. No. 4 Morgan, Sur. 405. Drlg. 6,250 ft.

Renwar Oil Co. No. 4 Fred Franks, 20-ac. tr., Sur. 416. R.U.

Renwar Oil Co. and Andrade No. 7 McGregor-Belk, Sur. 311. Drlg. 3,670 ft.

Renwar Oil Co. and Maryland Oil Co. No. 4 Rand Morgan, 660 ft. E of No. 3, 330 ft. N line lse., Surs. 315 and 592. Sd. 4,-552-70 ft.; comp.; est. 10 B.P.H. on ¼-in. ck.

Republic Nat. Gas Co. No. 1 P. W. Alexander, 32.35-ac. tr., rec. 9, Range 5. R.U.

Republic Nat. Gas Co. No. 3 A. Dorigan, 240-ac. tr., secs. 6 and 7, Rnge. 5. R.U.

Republic Nat. Gas Co. No. 15 Dunn, Blks. 37 and 38, Sheppard Farm Lots. Sd. 6,309-26 ft.; comp.; no gauge.

Republic Nat. Gas Co. No. 16 Dunn, Blk. 37, Sheppard Farm Lots. Sd. 6,310-32 ft.; comp.; no gauge.

Republic Nat. Gas Co. No. 1 Ordner, 219-ac. tr., Sur. 403. Sd. 5,811-28 ft.; comp.; 207 B.P.D. on 3/16-in. ck.

Richardson Pet. Co. No. 5 Cain & Secrist, Blk. 23, Russell Farm Lots. Sd. 4,439-46 ft.; comp.; no gauge.

Richardson Pet. Co. No. 6 Cain & Secrist, Blk. 23, Russell Farm Lots. M.I.M.

Richardson Pet. Co. No. 11 Cain & Secrist, Lot 23, Russell Farm Lots. Sd. 4,431-37 ft.; W.O.C.

Richardson Pet. Co. No. 2 Ordner, 219-ac. tr., Sur. 403. Set 10¾-in. csg.; W.O.C.

Richardson Pet. Co. No. 4 Quiros, Blk. 40, Sheppard Farm Lots. Cg. sd. 5,811 ft.

Southern Minerals Corp. No. 19 Bliss, 398 ft. N line, 446 ft. W line, N 120-ac. tr., Sur. 406. D.S.T. 5,830-35 ft.; 1,500 ft. oil; set csg.; W.O.C.

Southern Minerals Corp. No. 7 Isensee, Sur. 404. Set csg. 911 ft.; sd. 4,405-25 ft.; completing.

Stame O. & G. Co. No. 1 Cox & Cryder, 330 ft. N line, 990 ft. E line tr., Sur. 166 and 316. S.D. 4,000 ft.; wtr.

Texon Drlg. Co. No. 5 Carter, 219-ac.tr., Sur. 316. Cg. 4,039 ft.

Texon Drlg. Co. No. 1 Buckholt, 330 ft. S and E lines, 19.14-ac. tr., Sur. 402 and 316. Cg. 3,423 ft.

Texon Drlg. Co. No. 4 Carter, 219-ac. tr., Sur. 316. Sd. 4,440-45 ft.; comp.; 140 B.P.D.

Texon Drlg. Co. No. 3 Scoggin, 144-ac. tr., Sur. 315. Drlg. 2,869 ft.

Texon Drlg. Co. No. 3 Vance, Thos. Gallagher Sur. Sd. 4,426-35 ft.; set csg. 4,435 ft.; W.O.C.

W.A.R. Oil Co. No. 4 Buckholt, 330 ft. N and E lines, 258.9-ac. tr., Sur. 316. Sd. 4,443-50 ft.; comp.; no gauge.

W.A.R. Oil Co. No. 1 Hutchins, Sur. 416. (W.O.); old T.D. 4,200 ft.; T.D. 6,454 ft.; D.&A.

Wynne Drlg. Co. No. 3-A R. Morgan, 80-ac. tr., Sur. 315. T.D. 4,429 ft.; comp.; 97 B.P.D. on 5/32-in. ck.

Wynne Drlg. Co. No. 3-B Morgan, 330 ft. S and W lines, 80-ac. tr., Surs. 315 and 592. M.I.M.

Stratton—Nueces County

Camp Prod. Co. No. 1 Wordner, 330 ft. E line, 1,280 ft. N line, sec. 12, Stratton Subd. Loc.

Plymouth—San Patricio County

Heep Oil Corp. No. 6-F Welder, 646.56-ac. tr., sec. 46. Drlg. 4,657 ft.

Humble O. & R. Co. No. 4 Bevly, Blk. 1, sec. 35. Set csg. 5,646 ft.; W.O.C.

Magnolia Pet. Co. No. 11 Corpus Christi Bank, sec. 24, Fourth Addn., Taft Lds. Drk.

Plymouth Oil Co. No. 65-C Welder, sec. 71. Drlg. 3,365 ft.

Plymouth Oil Co. No. 64-C Welder, sec. 71. Set 7-in. csg. 5,646 ft. W.O.C.

Taft Field—San Patricio County

Atlantic Ref. Co. No. 3 Pullin, 330 ft. N line, 350 ft. W line, 40-ac. tr., Lot 4, sec. 1, Second Addn. R.U.

Cage Prod. Co. No. 5 Mayo, 330 ft. S and W lines lse., J. Fessenden Sur. Drlg. 117 ft.

Cage Prod. Co. No. 7 Mayo, 9,560 ft. W line, 990 ft. S line, 60-ac. tr., Ottman Sur. Loc.

Humble O. & R. Co. No. 7 Mayo, 150 ft. S and E lines, 640-ac. tr., Ottman Sur. Drlg. sh. 3,697 ft.

Humble O. & R. Co. No. 11 Mayo, 670 ft. E line, 330 ft. S line, 320-ac. tr., Ottman Sur. Drlg. sh. 4,872 ft.

Humble O. & R. Co. No. 13 Mayo, 799 ft. S line, 330 ft. E line, 320-ac. tr., Ottman Sur. R.U.

Los Olmus—Starr County

Ted Stone No. 1 Kelsey-Bass, Porc. 87, J. of Camargo. Sd. 400-08 ft.; tstg.

Margo—Starr County

Braden & Richards No. 1 L. Garcia, C 20-ac. tr., Sh. 7-B, Porc. 11. Oil sd. 394-96 ft.; S.O.; S.D.

Rio Grande City—Starr County

Sam Adams No. 1 Garza, Sh. 20-A, Porc. 80. S.D. 524 ft.

Coreta Oil Co. No. 5 Doyno, Blk. 1, Tr. 77-A, Porc. 81. Spudded; S.D.

Fech Oil Co. No. 12 Doyno, Blk. 4, Tr. 77-A, Porc. 81. Spudded; W.O.O.

Las Albercas—Webb County

Frank Garvis No. 12 Yeager-Strohman, Sh. 5, Las Animas Gr. No report.

O'Hern—Webb County

Hamil & Smith No. 15 Benavides, O'Hern Subd. T.D. 2,897 ft.; comp.; 30 B.P.H.

Hamil & Smith No. 16 Benavides, O'Hern Subd. Drlg. 2,867 ft.

Hamil & Smith No. 28 Benavides, O'Hern Subd. Tstg. sd. 2,924-36 ft.

Hamil & Smith No. 37 Benavides, O'Hern Subd. Drlg. 2,521 ft.

Hamil & Smith No. 39 Benavides, O'Hern Subd. Drlg. 1,236 ft.

Magnolia Pet. Co. No. 17 S. Benavides, O'Hern & Seacord Subd. Comp.; 100 B. P.D.; T.D. 2,841 ft.

Magnolia Pet. Co. No. 18 Benavides, Blk. 7, O'Hern & Seacord Subd. Drlg. 817 ft.

H. J. Porter No. 8 Benavides, Blk. 315, Hale Subd. Sd. 2,897-2,903 ft.; comp.; 15 B.P.H. on ½-in. ck.; T.D. 2,911 ft.

H. M. Reed No. 4 Benavides, Blk. 299, Hale Subd. R.U.

Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173, M.I.M.

Charco Redondo—Zapata County

W. C. Bob No. 2 Martinez, S¼, Blk. 22, Candudo Grant. M.I.M.

Cuellar—Zapata County

Nordan & Morris No. 2 Cuellar, Cerrito Blanco Gr. D.&A. 1,616 ft.

Escobas—Zapata County

Sam Evans No. 1 Garza, Blk. 19, Zorro ranch. R.U.

G. E. Glasco No. 4-M Garzo, W½, 40-ac. tr., Covintas Gr. (workover). O.T.D. 1,348 ft. to D.D.

H.&R. Oil Co. No. 6 Garza, Blk. 11, Douglas Subd. Comp.; 60 B.P.D.; T.D. 1,244 ft.

H.&R. Oil Co. No. 4-A Garza, Blk. 11, Douglas Subd. Sd. 1,230-40 ft.; set csg.; W.O.C.

O. W. Kilam No. 9 Medina, Sh. 34, Fansler Part. Loc.

B. W. Roscoe No. 5 Garza, Share 33, Douglas Subd. Sd. 1,200-08 ft.; comp.; 60 B.P.D.

Frank Schneider No. 5 Garza, Blk. 21, Douglas Subd. T.D. 1,153 ft.; comp.; 160 B.P.D.

Texas Co. No. 94 Jennings, 250 ft. S No. 7, Cerrito Blanco Gr. T.D. 2,534 ft.; D. &A.

Haynes—Zapata County

J. D. Long No. 1 Phelps, Villa Gr. R.U.

Magnolia Pet. Co. No. 2 Haynes, Blk. 7, Haynes Subd. Comp.; 60 B.P.D.; T.D. 1,066 ft.

Magnolia Pet. Co. No. 3 Haynes, Blk. 7, Haynes Subd. Sd. 1,073-85 ft.; rng. csg.

Magnolia Pet. Co. No. 5 Haynes, Blk. 7, Haynes Subd. Swbg. 1,109 ft.

McKay & Upchurch No. 15 Haynes, Blk. 7, Haynes Subd. Cg. 913 ft.

McKay & Upchurch No. 16 Haynes, Blk. 7, Haynes Subd. Comp.; 50 B.P.D.; T.D. 1,056 ft.

United Prod. Co. No. 10 Haynes, Blk. 13, Gunby Subd. Loc.

United Prod. Co. No. 11 Haynes, Blk. 13, Gunby Subd. Comp.; 63 B.P.D.; T.D. 981 ft.

United Prod. Co. No. 12 Haynes, Blk. 13, Gunby Subd. Comp.; 60 B.P.D.; T.D. 1,011 ft.

Valley Osage Oil Co. No. 1 Haynes, Blk. 1e, Haynes Subd. Comp.; 50 B.P.D.; sd. 1,034-40 ft.

E. C. TEXAS WILDCATS

Angelina County

Hicks et al No. 1 Morris, J. Morris Sur., 3 mi. E of Diboll. S.D. 1,584 ft.

W. A. Stone et al No. 1 Southern Pine Lbr. Co., B. J. Thompson Sur., 8 mi. SE Lufkin. Drk.

Cherokee County

General Crude Oil Co. No. 1 L. S. Stockton, S. Jarboe Sur., 6 mi. NE of Jacksonville. Cd. 4,394 ft.; cg. 4,515 ft.; showed S.W. on D.S.T.

A. F. Richardson No. 1 F. P. O'Brien, G. S. Clapp Sur., 3 mi. NW of Rusk; 5,000-ft. test. Loc.

Falls County

A. H. Bell et al No. 1 C. L. Trice, 220 ft. from S and E of F. Mayham Sur., 1 mi. E of Lott. M.I.R.

R. M. Hefflin, No. 1 T. E. Battle, Mari Sur., 3 mi. SW of Marlin. S.D. 2,082 ft.

Thirteen Oil Co. No. 1 H. R. Roberts, N. Slatter Sur., 6 mi. SE of Lott, Pecan Gap 1,480 ft.; drlg. 1,600 ft.

Fannin County

Joiner & Owens No. 1 Goss-Morgan, J. Stephens Sur., 16 mi. N of Honey Grove. Top Austin 1,480 ft.; drlg. 2,100 ft.

Styles & Smith No. 1 R. Stewman, J. W. Clark Sur., 2 mi. SE of Trenton. S.D. 588 ft.

Freestone County

Everett Drlg. Co. No. 1 O. W. Killian, E. J. Robins Sur., 6½ mi. SE of Fairfield. R.U.

Wheeler & Collins No. 1 W. R. Boyd, F. B. Cabler Sur., 4 mi. SW of Fairfield. M.I.R.

Yancey et al No. 1 Scott, Church Lot, H. Awalt Sur., W of Stewartsville. Fsg. 3,860 ft.

Henderson County

Cosden Oil Co. No. 1 Miller, Top Woodbine 4,898 ft.; drlg. 5,415 ft.

Hunt County

Penn Oil Corp. et al No. 1 A. B. Manning, 5 mi. NE of Lone Oak, S. Owens Sur. Drk.

Superior Oil Co. No. 1 P. D. Paul, 330 ft. from S and 230 ft. from E, Mary Latham Sur., 4½ mi. NE of Quinlan. Loc.

Lamar County

Lowery-Cutler No. 1 E. C. Porter, Thos. King Sur. Drlg. 450 ft.

Leon County

J. B. Daniels et al No. 1 Carter, Top sd. 1,292 ft.; S.D. 1,318 ft.

Roth & Faurot No. 1 J. L. Shaw, O. R. Reams Sur., 5 mi. N of Centerville. Drlg. 5,870 ft.

Limestone County

A. W. Phillips et al No. 1 E. M. Speight, M. Herrin Sur., 6½ mi. SE of Mexia. S.D. 37 ft.

Nacogdoches County

L. C. Bonhan et al No. 1 Angelina Lbr. Co., in J. Gomez Sur., 14 mi. SE of Nacogdoches. Fsg. 5,935 ft.

Collier et al No. 1 A. T. Mast, T. J. Lambert Sur. Washing 5,635 ft.

Rains County

Humble and Tide Water Oil Co. No. 1 Easter, R. Hotchiss Sur., 5 mi. NW Alba. Cg. 6,136 ft.

Red River County

Abercrombie and Harrison No. 3 Southern Pine Lbr. Co., D. D. Bruton Sur., 10 mi. NE of Clarkesville. Cg. 2,325 ft.

Carpenter Oil Co. No. 1 R. E. Anderson, S. W. Sims Sur., 3 mi. N of Clarksville. Drlg. 1,850 ft.

Roy I. Carter Drlg. Co. No. 1 J. A. Tutt, C 40-ac. tr. in D. Hart Sur., 2 mi. S of Avery. S.D. 80 ft.

M. Petroff et al No. 1 R. G. Morris, J. Guest Sur., 2 mi. W of Detroit. S.D. 20 ft.

Robertson County

J. E. Mills No. 1 T. Congelosi, C of 75-ac. tr. in G. A. Nixon Sur., 3½ mi. SW of Hearne. S.D. 2,200 ft.

Rusk County

John W. Merritt No. 1 J. A. Stallings, T. Uzzell Sur., 2½ mi. S of East Texas field. S.D. 3,944 ft.

Ben C. Lamb No. 1 Leath, L. J. Dooley Sur., 2½ mi. E of Pirtle; old test deepening; C.O. 4,740 ft.

Smith County

W. L. Cloud No. 1 Kendall. S.D. 2,794 ft.

Wood County

G. W. Nix et al No. 1 E. A. Russell, J. Delap Sur., SW cor. of county. S.D. 600 ft.

EAST TEXAS

(Border Counties)

Bowie County

Woodley & Bentley No. 1 Lumpkin, J. McDermott Sur., 1 mi. SW Dalby Spgs. T.D. 4,404 ft.; S.D. for wtr.

Cass County

American Liberty No. 5-A Baugus, J. H. Rives Sur., Lot 10. Drlg. 4,833 ft.

American Liberty No. 2-B Baugus, Lot 14, J. H. Rives Sur. Comp.; flow. 391 B.P.D.; T.D. 6,022 ft.

American Liberty No. 2 Sheppard, Lot 11, J. H. Rives Sur. Drlg. 5,169 ft.

American Liberty No. 1 White & Walker, 4½-ac. tr., J. H. Rives Sur. Drlg. 2,672 ft.

American Liberty No. 4 J. Wiley, C E and W. line, 56-ac. tr., J. Davenport Sur. Loc.

American Liberty No. 5 J. Wiley, SW cor. lse., J. Davenport Sur. Drlg. 1,200 ft.

Bay Oil Co. No. 1 G. E. Parker, SE cor. Greenham Sur. Rng. tbg.; T.D. 6,050 ft.

Eastern Tex. Prod. Co. No. 1 Belote, H. Holbert Sur. Fsg.; T.D. 5,876 ft.

Gulf Prod. Co. No. 2 Dawson et al, NW cor. lse., J. H. Rives Sur. Drlg. 5,714 ft.

Gulf Prod. Co. No. 3 Dawson, J. H. Rives Sur. Drk.

P. L. Hoffman et al No. 1 Davis, James Smith Sur., SE cor. 58-ac. tr. Drlg. 2,495 ft.

H. L. Hunt No. 1 I.N.&C.L. Shelton, SE cor. 202-ac. tr., J. Davenport Sur. T.D. 6,054 ft.; S.D.; W.O.; tstg. dry.

W. F. Lacey No. 1 J. Lewis, NW cor. B. E. Echols 17.4-ac. lse., H. Holbert Sur. Drlg. 4,783 ft.

Magnolia Pet. Co. No. 1 Allday Est., P. Evans Sur., SE cor. 87-ac. tr. Loc.

Magnolia Pet. Co. No. 9 J. E. George, John Collom Sur. Drlg. 3,883 ft.

Magnolia Pet. Co. No. 12 J. E. George Est., John Collum Sur., NW cor. George tr. 7-in. cmt. 6,060 ft.; T.D. 6,090 ft.; W.O.C.S.

Magnolia Pet. Co. No. 14 J. E. George Est., NW cor. George tr., John Collum Sur. Comp.; flw. 10 B.P.H.; T.D. 6,125 ft.

Magnolia Pet. Co. No. 1 Lewis & Wilks, A. Archer Sur., SE cor. 20-ac. tr. Loc.

Magnolia Pet. Co. No. 1 J. B. McLeod, Cass Co. Sch. Ld. Sur., NW cor. sur. Loc.

Magnolia No. 1 Meda Green, SW cor. J. Davenport Sur. Comp.; flw. 10 B.P.H.; T.D. 6,033 ft.

Magnolia Pet. No. 3 Meda Green, James Davenport Sur., SE cor. 73-ac. lse. Drlg. 6,028 ft.

Magnolia No. 5 Meda Green, James Davenport Sur., 245-ac. lse. Drlg. 5,229 ft.

Magnolia No. 2 Noel Est., Wm. B. Hughes Sur., NE cor. Noel lse. Drlg. 5,164 ft.

Magnolia Pet. Co. No. 5 Rives, SE cor. John Collum Sur. T.D. 6,035 ft.; tstg.; acidized.

Magnolia No. 10 Rives, NE cor. John Collum Sur. Drlg. 5,933 ft.

Magnolia No. 11 Rives, John Collum Sur., 804 ft. SE of No. 6. Drlg. 5,473 ft.

Fagnolia Pet. Co. No. 1 H. F. Walker, Wilson Robinson Sur., SE cor. 102-ac. lse. Drlg. 370 ft.

Magnolia Pet. Co. No. 2 H. F. Walker, Wilson Robinson Sur., SE SE cor. 102-ac. lse. R.U.

Magnolia Pet. Co. No. 3 H. F. Walker, Wilson Robinson Sur., NW cor. 102-ac. lse. R.U.

Magnolia Pet. Co. No. 4 H. F. Walker, Wilson Robinson Sur., NE cor. 102 ac. lse. Drk.

Magnolia Pet. Co. No. 5 H. F. Walker, Wilson Robinson Sur., SW cor. 102-ac. lse. Loc.

Magnolia No. 1 Thornton Hrs., Wilson Robinson Sur., NE cor. 30-ac. tr. Drlg. 4,787 ft.

Magnolia No. 1 Wall & McLeod, NE cor. 82-ac. lse., Alex Archer Sur., 7-in. cmt. 6,084 ft.; T.D. 6,100 ft.; W.O.C.S.

Magnolia No. 2 Wall & McLeod, NW cor. 82-ac. lse., Alex Archer Sur., 7-in. cmt. 6,051 ft.; T.D. 6,065 ft.; W.O.C.S.

Magnolia No. 3 Wall & McLeod, SE cor. 82-ac. lse., Alex Archer Sur. 7-in. cmt. 6,063 ft.; T.D. 6,100 ft.; W.O.C.S.

Magnolia No. 4 Wall & McLeod, SW cor. 82-ac. lse., Alex Archer Sur. 7-in. cmt. 6,040 ft.; T.D. 6,055 ft.; W.O.C.S.

R. W. Norton No. 3 J. T. Moore, Wm. R. Myers Sur., 210-ac. tr. Comp.; flw. 459 B.P.D.; T.D. 5,990 ft.

R. W. Norton No. 4 J. T. Moore, Wm. R. Myers Sur. Drk.

Ohio Oil Co. No. 5 R. P. Willis, S.F.I.W. Sur. No. 1,263. Drlg. 1,620 ft.

Ohio Oil Co. No. 7 R. P. Willis, S.F.I.W. Sur. No. 1,263. Loc.

Ohio Oil Co. No. 9 R. P. Willis, S.F.I.W. Sur. No. 1,263, SW of No. 3. Drlg. 3,940 ft.

Ohio Oil Co. No. 10 R. P. Willis, 933 ft. S of No. 4, S.F.I.W. Sur. No. 1,263. 7-in. cmt. 5,932 ft.; W.O.C.S.

Ohio Oil Co. No. 12 R. P. Willis, SE cor. 320-ac. tr., S.F.I.W. Sur. 1,263. Drlg. 5,029 ft.

Phillips Pet. Co. No. 1 Chew, SE cor. 207-ac. lse., Robt. Trammel Sur. Drlg. 2,080 ft.

Phillips Pet Co. No. 2 Chew, 1,460 ft. N, 326 ft. W, SE cor. W. D. Chew 207-ac. lse., Robt. Trammel Sur. Drlg. 5,288 ft.

Phillips Pet. Co. No. 3 Chew, 2,324 ft. N, 326 ft. W, SE cor. W. D. Chew 207-ac. lse., Robt. Trammel Sur. Drlg. 5,960 ft.

Phillips Pet. Co. No. 2 Farrier, on 200-ac. tr., Wm. Myers Sur. Drlg. 5,452 ft.

Phillips Pet. Co. No. 5 Farrier, Wm. R. Myers Sur. Loc.

Phillips Pet. Co. No. 6 Farrier, Wm. R. Myers Sur. Loc.

Phillips Pet. Co. No. 7 Farrier, Wm. R. Myers Sur. Loc.

Phillips No. 3 Farrier, Wm. R. Myers Sur., Sur., 220-ac. lse. R.U.

Phillips No. 4 Farrier, Wm. R. Myers Sur., 933 ft. W of No. 2. Drlg. 2,200 ft.

Phillips Pet. Co. No. 1 G. E. George, Wm. R. Myers Sur. Comp.; flw. 347 B.P.D.; T.D. 6,050 ft.

Phillips Pet. Co. No. 1 Skinner, Hutchinson tr., S.F.I.W. Sur. No. 1,025. Drk.

Phillips Pet. Co. No. 2 Skinner, Hutchinson tr., S.F.I.W. Sur. No. 1,025. Drlg. 5,261 ft.

Phillips Pet. Co. No. 3 Skinner, 160-ac. tr., in S.F.I.W. Sur. No. 1,025. 7-in. cmt. 6,114 ft.; T.D. 6,138 ft.; W.O.C.S.

Phillips Pet. Co. No. 1 M. Wasson, W. R. Myers Sur., 27-ac. tr. 7-in. cmt. 6,115 ft.; T.D. 6,123 ft.

Spray Oil Co. No. 1 Scott, 25-ac. lse., midway N and S, Robt. Trammel Sur. 7-in. cmt. 5,978 ft.; T.D. 6,005 ft.

Spray Oil Co. No. 2 Scott Adams, 25-ac. tr., Robt. Trammel Sur. Drlg. 410 ft.

Texas Co. No. 2 W. M. Hall, Alex Archer Sur., 664 ft. W of E line. Drlg. 5,319 ft.

Texas Co. No. 1 J. B. McLeod, W. A. Elliott Sur., 1,416 ft. W of E and 466 ft. S of N 160-ac. tr. Comp.; flw. 38 B.P.H.; 1-in. tbg. ck.; T.D. 6,114 ft.

Texas Co. No. 2 J. B. McLeod, W. A. Elliott Sur., 440 ft. E of W and 495 ft. S of N line of 160-ac. tr. Drlg. 5,092 ft.

Texas Co. No. 3 J. B. McLeod, W. A. Elliott Sur. Drk.

Texas Co. No. 1 N. A. Rambo, C. C. Sch. Ld. Sur., SW cor. 160-ac. lse. Drlg. 5,184 ft.

Tide Water No. 1 W. D. Chew, Robt. Trammel Sur., 150 ft. N of S line, midway between E and W lines of 20-ac. lease. Derrick.

Tide Water No. 2 C. C. Chew, on 55-ac tr., Robt. Trammel Sur. 7-in. cmt. 5,996 ft.; T.D. 6,010 ft.

Tide Water No. 3 C. C. Chew, NW cor. 55-ac. tr., Robt. Trammel Sur. Drlg. 4,846 ft.

United Prod. Co. No. 2 G. W. Bibby Unit, Alex Archer Sur., Hartzo 20-ac. lse. Drlg. 2,200 ft.

United Prod. Co. No. 3 G. W. Bibby Unit, Alex Archer Sur., 13-ac. Hartzo lse. Drlg. 4,455 ft.

United Prod. Co. No. 4 G. W. Bibby Unit, Alex Archer Sur., 24-ac. tr. Drlg. 4,407 ft.

United Prod. Co. No. 2 Bivens Unit, Jas. Davenport Sur. Drk.

United Prod. Co. No. 7 J. R. Jones Unit, SE cor. Ben J. Murray Sur. Comp.; flw. 37 B.P.H.; T.D. 6,055 ft.

United Prod. Co. No. 9 J. R. Jones Unit, Ben J. Murray Sur. Drlg. 3,796 ft.

United Prod. Co. No. 10 J. R. Jones Unit, Ben J. Murray Sur. Drlg. 4,407 ft.

United Prod. Co. No. 7 Rambo Unit, Jas. Davenport Sur., H. A. Thomas 83-ac. tr. Drlg. 5,422 ft.

United Prod. Co. No. 8 Rambo Unit, Jas. Davenport Sur., H. A. Thomas 83-ac. tr. Drlg. 4,458 ft.

United Prod. Co. No. 9 J. T. Stewart Unit, John Collom Sur., 81-ac. tr. Drlg. 3,796 ft.

United Prod. Co. No. 10 J. T. Stewart Unit, John Collom Sur., 48-ac. tr. Drlg. 2,200 ft.

United Prod. Co. No. 3 Tyson Unit, J. H. Rives Sur. T.D. 6,158 ft.; tstg.

United Prod. Co. No. 4-A Tyson Unit, J. H. Rives Sur. Drlg. 2,200 ft.

Harrison County

Geyer Oil Co. No. 1 Alex Moore, 5 mi. SW of Waskom, C. W. Fields Sur. T.D. 510 ft.; S.D.

Geyer Oil Co. No. 2-A Vincent, S. B. Harrison Sur. Comp.; pmp. 30 B.P.D.; T.D. 2,452 ft.

Hanover, Bergendoll et al No. 1 Buchanan, Wm. McIlvain Sur. Comp.; T.D. 4,220 ft.; D.&A.

H. H. Roberts et al No. 1 Z. Douglas, S Fields Sur. T.D. 1,000 ft.; S.D.

Marion County

Arkansas-La. No. 1 W. S. Ford, Charles Grayson Sur., NE cor. Ford 204-ac. tr. Loc.

Tom Bell et al No. 1 David Lane, SW C Log 2, Jones Sur. T.D. 72 ft.; S.D.

Sam Lanier No. 1 Lucey Rives, SE cor. M. G. Wall Sur. T.D. 960 ft.; W.O.S.R.

Morefield & Prince No. 1 Benefield, NE cor. Robt. Potter Sur., 4 mi. W of Oil City, La. T.D. 180 ft.; S.D.

Holcomb & Thomason No. 1 Lizzie Henderson, 330 ft. S and E, cor. Blk. 18, of Lizzie Henderson Subd., or 2,800 ft. S, 3,450 ft. E of NW cor. of R. Bennington Sur. Drlg. 4,588 ft.

Panola County

Danciger O. & R. Corp. No. 1 Tatum, SW cor. A. Bissell Sur. Drk.

Glassell & Glassell No. 1 Williamson, Mary Potts Sur. Drlg. 5,275 ft.

Lawrel Pet. Co. No. 1 Bucknell, B. Anderson Sur. T.D. 5,980 ft.; rng. Schlumberger test.

Logansport P. L. Corp. No. 1 Rushing, M. Smith Sur. T.D. 2,774 ft.; S.D.

Magnolia Pet. Co. No. 1 E. A. Hull, T. Applewhite Sur. Drlg. 5,860 ft.

Matex Oil Co. No. 1 Thomas M. Alstone, 3 mi. E of Elysian field. T.D. 5,136 ft.; prep. run csg.

Yandel Rogers No. 1 Cameron Lbr. Co., Mm. A. Lagrone Sur., 7 mi. N of Carthage. Loc.

Shelby County

Mulroy-Curtain et al No. 1 Hayden, D. G. Yardt Sur. Drlg. 3,950 ft.

Potter & Rubeling O. H. Polly No. 1, Wm. Wisner Sur. T.D. 4,070 ft.; S.D.

Wm. Reddit No. 1 Pickering Lbr. Co., SE cor. Stephens English Sur. R.U.

Red Wing Oil Co. No. 1 C. H. Herton, 54-ac. tr. in J. Dowlin Sur. S.D. 1,889 ft.

H. A. Stebbinger No. 1 Pickering Lbr. Co., on 160-ac. tr. in A. Hanson Sur. Loc.

NORTH TEXAS WILDCATS

Archer County

L. T. Burns No. 1 White, sec. 34, A.T.N. C.L. Sur. Loc.

L. T. Burns No. 1 J. S. Bridwell, sec. 1,866, T.E.&L. Sur. Drk.

Tom Looney No. 1 L. F. Wilson, sec. 71, A.T.N.C.L. Sur. Drlg. 1,430 ft.

Baylor County

Consolidated Oil Co. No. 3 Portwood Y, sec. 3,138, T.E.&L. Sur. R.U.R.

S. P. Morris et al No. 1-B C. T. Porter, E. Brown Sur. A-20. C.O.; T.D. 1,614 ft.

Collin County

California Consld. Oil Co. No. 1 Fagg, Jas. Rutherford Sur. Sd. 2,700-71 ft.; test wtr.; P.B. to 2,667 ft.

Port Bolivar O. & R. Co. No. 1 Durning, Wm. Creeger Sur. Sd. 3,940-44 ft.; tested wtr.; S.D.O.

Sorrell et al No. 1 D. R. Clark, J. Rowland Sur. Spudded and S.D.

Cooke County

Big Indian O. & D. Co. and No. 1 T. E. McFadden, G. M. Bonds Sur. A-69. S.D.O. 2,053 tf.

Wm. D. Compton No. 1 P. Tucker, J. Barnett Sur. A-42. S.D. 450 ft.

M. L. Harris No. 1 Williams, A. C. C. Bailey Sur. A-44. Tstg.: S.D.O. 2,175 ft.

B. H. Hilburn No. 1 W. A. Harris, J. Harris Sur. A-502. Fishing 1,440 ft.

F. W. Merrick, Inc., No. 1 Mrs. L. J. Jones, J. Lawson Sur. A-588. Drlg. 3,030 ft.

C. Newburn No. 1 J. J. Clark, W. C. Campbell A-238 Sur. Drlg. 1,510 ft.

Petterson et al No. 1 J. M. Floyd, Chas. De Morse Sur. A-305. Loc.

Rapp O. & G. Co. No. 1 Mrs. M. J. Little, Blk. 60, Cooke Co. Sch. Ld. Sur. A-295. Drlg. 160 ft.

Seitz et al No. 1 State Bank, Charles Wheelock Sur. A-1,131. M.I.

Sinclair Prairie Oil Co. et al No. 2 A. C. McCall, H. White Sur. A-1,134. Drlg. 7,600 ft.

Stuck et al No. 1 Elkins, A. J. Shannon Sur. No. A-837. S.D. 2,372 ft.

Denton County

Carlysle & Wilson No. 1 J. P. Knox, R. Howard Sur. A-542. 7-in. O.D. set 1,480 ft.; S.D.O.

J. C. Foster No. 1 Jeffcoat, J. West Sur. S.D. 1,040 ft.

C. C. Minnick No. 1 C. N. Price, J. Doughtitt Sur. A-1,322. Fsg. 270 ft.

Oil Finance No. 1 J. S. Gamblll. R.U.R.

J. Stogner No. 1 J. Maxwell, Jno. Morton Sur. A-792. Spudded and S.D.

Grayson County

F. Gailbreath et al No. 1 Singletary, Chas. Quillian Sur. A-989; spudding.

Olson et al No. 1 D. R. Ulger, P. P. Cady Sur. A-301. Drlg. 1,722 ft.

Pete Shaner No. 1 Blair, R. H. Deavers Sur. A-313. S.D.O. 2,701 ft.

Jack County

Bryson O. & G. Co. No. 1 O. Loving, T.&N.O. Sur. A-852. Drlg. 3,200 ft.

Cato Co., Inc., No. 1 Raley, B. I. Hughson

Sur. A-256. S.S.O. 3,016-25 ft.; drlg 3,050 ft.

Danciger O. & R. Co. No. 1 Kinder, B.S.&F. Sur. A-83. Loc.

Hamilton Pet. Co. No. 1 J. S. Rhodes, Wm. Orr Sur. A-849. Loc.

Hanlon-Buchanan, Inc., No. 1 Calvin, E. B. Calvin Sur. S.D. 2,968 ft.

Sam Shabay No. 1 L. W. Fields, sec. 1, S.P.R.R. Sur. Loc.

Montague County

Clark-Beckner No. 1 C. W. Bell, sec. 6, M.E.P.&P. Sur. Drk.

T. P. Frost No. 1 Johnson, sec. 6, E.T. R.R. Sur. Drlg. 2,560 ft.

W. E. Halbert No. 1 Petty, S. A. Southerland Sur. A-992. S.D.O. 1,680 ft.

L. C. Heydrick No. 1 Cliff Dowd, G. W. Browning Sur. A-1,274. S.D. 3,520 ft.

Sinclair Prairie No. 1 Hodges, Blk. 55, K. C.S.L. Sur. Drlg. 1,410 ft.

Throckmorton County

Canyon O. & G. Co. No. 1 Wright, D.B.B. &C. Sur. Drlg. 345 ft.

Gibson & Jennings, Inc., No. 1 Polk, P.C. S.L. Sur. A-239. Drlg. 500 ft.

R. J. Williams No. 1 W. B. Parrott, T.E. &L. Sur., sec. 961. Drlg. 2,310 ft.

Wichita County

A. E. Blair No. 1 Cody Est., sec. 311, Waggoner Col. Subd. S.D.O. 1,895 ft.

Box & Seaberry No. 1 Krizan, Blk. 43, Cherokee Sch. Lds. S.D.O. 645 ft.

T. B. Medders No. 1 Allen, H.T.&B. Sur. A-129. S.D.O. 1,300 ft.

Palmer et al No. 1 McCarty, S. O. Fowler Sur. No. A-78. Fsg. 1,820 ft.

Wilbarger County

Rathke Oil Co. No. 1 Waggoner, H.&T.C. Sur. Blk. 33. Drlg. 1,360 ft.

Wise County

Texas-Canadian Dev. Co. No. 1 Levette, sec. 1, S.C.S.L. Sur. Drlg. 1,785 ft.

Young County

R. C. Albright No. 1 W. E. Steele, I.R.R. Sur. A-156. Drk.

Alexander & Long No. 1 Goldston, S.P.R.R. Sur. A-263. Drlg. 2,000 ft.

J. W. Eagleston No. 1 E. O. Wall, sec. 1,920, T.E.&L. Sur. Loc.

Helmerich & Payne No. 1 J. H. Rubenkoenig, J. Poitevent Sur. 9-227. Spudding.

Nash & Windfohr No. 1 F. B. Lowery, S. H. Criswell Sur. A-1,297. 6⅝-in. cmt. 3,722 ft. W.O.C.

Pitzer & West No. 1 Gathright, T.E.&L. Sur. 617. Drlg. 1,272 ft.

States Oil Corp. No. 1 N. Laquay, A. Erwin Sur. A-1,779. Loc.

A. T. Strong No. 1 Davidson, R. C. Eddleman Sur. A-1,420. Drlg. 3,700 ft.

R. H. Vise No. 1 Dollins, T.E.&L. Sur. 615. Drlg. 1,710 ft.

C. V. Welch No. 1 Street, M. E. Criswell Sur. A-1,772. Drlg. 670 ft.

L. W. Wickes No. 1 McCluskey, Green Sur. Drlg. 1,127 ft.

Yorktex Pet. Co. No. 1 F. G. Burnett, G. W. Hills Sur. A-151. Drlg. 4,308 ft.

WEST TEXAS WILDCATS

Andrews County

G. F. Getty, Inc. No. 1 R. H. Lindley, 660 ft. from S and W, sec. 8, Blk. A-46. Drk.

Grisham Hunter Corp. No. 1 Ratliff & Bedford. Drlg. 4,282 ft.

Wm. Hannigan No. 1 Logsden, sec. 5, Blk. A-32. Drlg. 2,586 ft.

R. H. Henderson No. 1 J. E. Parker, sec. 25, P.S.L. Sur. A-43. T.D. 4,555 ft.; testing.

Sinclair Prairie Oil Co. No. 1 E. Cowden, sec. 12, Blk. 44, Twp. 2n. T.&P. Sur. Drlg. 3,500 ft.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. T.D. 3,690 ft.; C.O.

Crane County

Clark et al No. 1 Jordan, sec. 12, Blk. B-22, P.S.L. Sur. Drlg. 314 ft.

Gulf Oil Corp. No. 2 W. N. Waddell, sec. 18, Blk. B-21. T.D. 6,709 ft.; P.B. 6,186 ft.; to run tbg. and test.

Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. T.D. 3,702 ft.; C.O.

Gulf Oil Corp. No. 2 Snodgrass, sec. 1, Blk. B-25. T.D. 3,247 ft.; testing.

Moore Bros. No. 1 Barnsley, sec. 43, Blk. 32, P.S.L. Sur. Drlg. 6,281 ft.

Navarro Oil Co. No. 1 Dawson, sec. 2, Blk. R, T.&M.R.R. Sur. Drlg. 1,326 ft.

Dawson County

Roy Albaugh et al No. 1 J. Robinson. T.D. 5,038 ft.; testing.

Ector County

Empire O. & R. Co. No. 1-D Cummins, sec. 23, Blk. 45, Twp. 1n, T.&P. Sur. Drlg. 3,015 ft.

Stanolind O. & G. Co. No. 2-B Cowden. T.D. 4,451 ft.; P.B. 4,303 ft.; fsg.

Edwards County

Plateau Oil Co. No. 1 Hatch. Drlg. 4,157 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless. T.D. 1,800 ft.; U.R. csg.

L. A. Long et al No. 1 J. L. Mayberry, sec. 56, Blk. 1, H.&T.B. Sur. T.D. 3,321 ft.; P.B. to test 3,026-3,311 ft.

Southern Oil Co. No. 1 Robinson, sec. 172, Blk. 2, H.&T.C. Sur., 2½ mi. NE of Raton. R.U.S.T.

Gaines County

Amerada Pet. Corp. No. 1-A Averitt, sec. 228, Blk. G, W.T.R.R. Sur. T.D. 5,029 ft.; to deepen.

Amerada Pet. Corp. No. 1 Robbins, 660 ft. from N and W, sec. 9, Sur. A-22. Drlg. 2,626 ft.

Stanolind O. & G. Co. No. 1 Morrow. S.D. 2,765 ft.

Glasscock County

Fleetborn Oil Co. No. 1 Black Arrow, sec. 3, Blk. 34, Twp. 3s, T.&P. Sur. Drlg. 900 ft.

Fleetborn Oil Co. No. 1 Coulson, sec. 19, Blk. 33, Twp. 3s, T.&P. Sur. Drlg. 1,600 ft.

Moore Bros. No. 1 I.T.I.O. and McDowell, sec. 31, Blk. 34, Twp. 5s, T.&P. Sur. R.U. machine; drlg. 1,631 ft.

Hockley County

Texas Co. No. 1 B. Slaughter, Labour 83, League 38, Zavala Co. Sch. Lds. Drlg. 3,500 ft.

Howard County

Johnson No. 2 Hyman, sec. 88, Blk. 29, W.&N.W. Sur. Loc.

Hudspeth County

Haymon Krupp Oil & Ld Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. Rng. 2,200 ft. of 8⅝-in. csg.

Jeff Davis County

Joiner & Wilcox No. 1 Jones & Coffield, sec. 121, Blk. 4, H.&T.C. Sur. Drlg. 514 ft.

Jones County

H. D. Egger et al No. 1 O. Roberts, sec. 26, Orphan Asylum Lands. R.U. machine.

K. O. T. Oil Co. No. 1 E. C. Duke, sec. 20, Blk. 15, T.&P. Sur., 1 mi. N of Hawley field. Fsg. 1,910 ft.

Oyster & Griffith No. 1 Bumpass, A. Jones Sur., 3 mi. SW of Truby. T.D. 1,800 ft.; set csg.

J. L. Reeves No. 1 Kelly, C. Martinez Sur., 1½ mi. N of Hawley. Drlg. 1,803 ft.

Texas Inland Oil Co. No. 1 J. K. Pittard, sec. 27, Orphan Asylum Lds. Drlg. 1,575 ft.

Tiner et al No. 1 Rainwater, sec. 34, Blk. 2, S.P. Sur. T.D. 2,275 ft.; U.R. csg.

Ungren & Frazier No. 1 Davis & Stemmons, Lot 7, F. M. Smith Sur. No. 3, 2½ mi. SW of Lueders. Drlg. 1,706 ft.

Ungren & Frazier No. 1 Trothers, Lot 1, Sub. 2, E. C. Miller Sur. Drlg. 1,402 ft.

Nolan County

Dr. Robinson Co. No. 1 E. Gabler, sec. 26, Blk. X, T.&P. Sur. Drlg. 1,336 ft.

Pecos County

Bahan & Rhodes No. 1-B Bonebrake, sec. 116, Blk. 8, H.&G.N. Sur. T.D. 2,260 ft.; R.U.S.T.

C. A. Everts No. 1 W. S. Tyrell, sec. 508, G. Montez & Duran Sur. S.D. 2,027 ft.

Hightower Oil Corp. No. 1 Holmes, sec. 6, Blk. C-3, E.L.R.R. Sur. Drlg. 1,414 ft.

Kirk et al No. 1 Potts, sec. 6, Blk. 9, H.& G.N. Sur. T.D. 1,774 ft.; C.O.

Lee Pet. Corp. et al No. 1 J. L. Nutt, 2,310 ft. N of N line, sec. 7, Blk. 125, T.&St.L. Sur., and 330 ft. W of W line of sec. 102, J. Poitevent Sur., but in sec. 1, W. D. Henley Sur. R.U.

E. R. Minshall, No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. S.D. 2,815 ft.

S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. T.D. 3,939 ft.; U.R. csg.

Union Oil & Mining Co. No. 2 Potts, sec. 6, Blk. 9, H.G.N. Sur. Drlg. 1,571 ft.

Young No. 1 Bailey, sec. 23, Blk. 178, T.C. R.R. Sur. S.D. 1,260 ft.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Loc.

Lindeman Bros. Oil Corp. No. 1 J. R. Bledsoe & Badgley, sec. 15, Blk. 351, G.C.&S.F. R.R Co. Sur., 2½ mi. NE of Presidio. S.D. 3,019 ft.

A. H. Main No. 1 Greenlee, sec. 40, Blk. 347, 13 mi. NE of Marfa. Loc.

Reagan County

Bahan & Rhodes No. 1 Kloh, sec. 37, Blk. 37, Twp. 5s, T. & P. Sur., NW cor. of county. Spd. and S.D.

Schleicher County

Mangus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; T.D. 6,527 ft.; P.B. 5,912 ft.; moved in cable tools to C.O.

Terrell County

Ohio Oil Co. No. 1 M. H. Goode, sec. 26, Blk. 161, G.C.&S.F. Sur. Drlg. 8,000 ft.

Terry County

W. L. Pickens et al No. 1 Lewright. S.D. 120 ft.

Uscan Oil Co. No. 1 Brownfield, C N¼ sec. 54, Blk. K, P.S.L. Sur. Drlg. 5,232 ft.

Tom Green County

Webb Bros. No. 1 J. F. Schrivener, Krending Sur. 1,663, 3 mi. N and E of Van Court. S.D. 664 ft.

Upton County

R. H. Henderson No. 1 Reese, sec. 16, Blk. 3½, C.C.S.D.&R.G.N.G. Sur. Drlg. 2,125 ft.

Moore Bros. No. 1 Giddings, Sub. 25, Throckmorton Co. Sch. Lds. T.D. 2,596 ft.; to set pipe.

J. H. Myles & Son No. 1 Hughes, sec. 91, Blk. Y, G.C.&S.F. Sur. S.D. 125 ft.

Dan Short No. 1 Webb, sec. 174, Blk. E, C.C.S.D.&R.G.N.G. Sur. S.D. 815 ft.

Ward County

Findley & Cherry No. 1 Sealey, sec. 54, Blk. F, G.M.M.B.&A. Sur. S.D. 3,200 ft. to set csg.

Winkler County

Adams & Bradley No. 1 Edwards, 2,310 ft. S and 330 ft. E, sec. 6, Blk. C-23. Spudded.

Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. Drlg. 4,151 ft.

Richardson Oils, Inc., No. 1 Humble-Walton, sec. 3, Blk. B-3, P.S.L. Sur. Drlg. 330 ft.

Yoakum County

Texas Pacific Coal & Oil Co. No. 1 Bennett, sec. 678, John H. Gibson Sur. Drlg. 4,165 ft.

RANGER (WEST CENTRAL TEXAS) DISTRICT

Callahan County

H. V. House et al No. 1 R. Smart "B," 5 mi. SW of Admiral, W. T. Lassiter Sur. Spd. and S.D.

Hal Hughes No. 2 Williams, 7 mi. NE Baird, C SE¼ SE sec. 61, B.O.A. Sur. Moving in for 2,500-ft. test.

F. R. Midkiff No. 1 Hunt, NE cor. county, 1,200 ft. from N, 1,028 ft. from E, sec. 107, University School Lands. Loc.

Coleman County

Midfield Oil Co. No. 1 T. H. Ward, sec. 274, W. Echels Sur. T.D. 1,000 ft.; S.D.

Comanche County

H. L. Baughman No. 1 Hardin, Isa Hoxey Sur. S.D. 800 ft.

Eastland County

Ashburn and Luke No. 1 Scott, A. Tarter Sur. T.D. 3,118 ft.; shot with 100 qts.; tstg.

F. J. Estes No. 1 Gentry, A. Popejoy Sur. Drlg. 2,415 ft.

Ray Hoff No. 1 Brashears, 5½ mi. SE Eastland, 450 ft. W and 150 ft. S. SE cor. Blk. 42, but in Blk. 39, McLennan Co. S. L. Leagues 3 and 4. Moving in.

Hamilton County

Seaboard Oil Co. No. 1 fee, A. C. Grimes Sur., 10 mi. N of Huntington. Drlg. 3,165 ft.; small show gas 3,160-65 ft.

Shackelford County

H. C. Akins et al No. 1 J. E. Swenson, C E½ sec. 14, A.B.&M. Sur. Loc.

Albany Oil and Freeman No. 1 W. Hastings, 5 mi. NW Morris-Buie pool, sec. 18, D.&S.E.R.R. Sur. Drlg. 1,700 ft.

Humble O. & R. Co. No. 1 W. P. Newell, 5 mi. west Albany, 1,876 ft. from N, 3,250 ft. from W of sec. 2, G.H.&H. Sur. Moving in.

Jones & Stasney et al No. 1 Dawson & Conway, 2 mi. N Morris-Buie pool, C SW SE¼ sec. 195, E.T.R.R. Sur. Drlg. 700 ft.

Owen-Snebold Oil Corp. No. 1 Ivey, NW cor. county, 220 ft. from N and W of sec. 159, B.B.B.&C. Sur. Moving in.

Roberts, Calhoun & Boynton No. 1 W. H. Green, 12 mi. SW of Albany, sec. 65, T. &P. Sur., Blk. 12. Rigging up.

Stephens County

C. B. Christie et al No. 1 E. S. Maury, 4 mi. W of Crystal Falls, J. Koehler Sur., Abst. 26. Drlg. 570 ft.

W. T. Garret et al No. 1 Echols, 6 mi. SE of Ivan, W½, sec. 10, Blk. 3, S.P.R. R. Sur. Drlg. 1,000 ft.

Mudge Oil Co. No. 1 W. P. Smith, 2 mi. NW of Ivan, sec. 14, S.P.R.R. Sur., Blk. 2. Straightening crooked hole; drlg. 1,250 ft.

Tarrant County

E. E. Hoffpauir et al No. 2 W. H. Davis, 2 mi. S Arlington, H. Blackwell Sur., Pat. 3-1,197. Spd. and S.D.

Throckmorton County

R. J. Williams et al No. 1 W. B. Parrott, 4 mi. NW of Woodson, sec. 961, T.E.&L. Sur. Drlg. 2,460 ft.

Wise County

Texas-Canadian Dev. Co. No. 1 Leverett, Blk. 19, Smith Co. Sch. Lds. Sur., 5 mi. NE of Rhome, 3,500-ft. test. S.D. 1,854 ft.

Central West Fields

(Continued from Page 88)

Grant was drilled through the second Berea sand at 1,635-42 feet, with a small show of gas, but it has been abandoned. In Fraction 34, Ames Township, D. T. Orndoff No. 1 William Mingus was completed below the second Berea sand at 1,262-80 feet and gauged 305,000 feet of gas after a shot. In section 13, same township, Carpenter & Glazier No. 15 Jane and John Smith was drilled to a total depth of 331 feet without finding the first Cow Run sand, and was abandoned. In section 17, Rome Township, Leeper & Co. No. 2 Frank Jackson has been shut down for orders after making 75,000 feet of gas naturally in the second Cow Run sand at 609-32 feet.

In Hocking County, section 19, Ward Township, Kachelmacher Estate No. 5 Nelsonville Coal & Land Co. was completed below the Cinnamon sand at 1,915-2,154 feet and gauged 165,000 feet of gas after being shot with gelatine. In section 6, same township, Joe Thomas & Co. are rigged up for No. 12 on the W. W. Acker & Co. property.

Drilling Contractors

(Continued from Page 63)

Co.; two in Manvel by Burton Drilling Co. and Harrison and Abercrombie; one in Brazos County by Francis and Stone Oil Co.; one at Heyser by Humble Oil & Refining Co.; one at Anahuac by Gulf Oil Corp.; one in Blue Ridge by Harry Gordon; two in Boling dome field by Mack Hank Oil Co. and Brewster Trustee. In the Hockley Salt dome and Fairbanks fields in Harris County, Stanolind Oil & Gas Co. and Amerada Petroleum Co. have staked No. 1 Warren Minerals and No. 2 C. Dopslauf. Tysco Oil Co. has pits dug for No. 1 Christy Bros. at South Houston. New activity was announced for the Tomball, Nome, Markham, Placedo, Withers and Magnet fields, while in Trinity County, Daniel E. Boone has spudded in on a wildcat located in the William Watson Survey.

Rocky Mountain Runs

Estimated daily average production for the week ending December 12:

WYOMING	
Salt Creek	16,230
Big Muddy	1,410
Black Mountain	170
Dallas Derby	570
Elk Basin	540
Frannie	380
Garland	2,500
Grass Creek	1,720
Hamilton dome	820
Hidden dome	480
Hudson	310
LaBarge	990
Lance Creek	8,140
Lost Soldier	1,190
Medicine Bow	490
Oregon Basin	2,350
Osage	770
Rock River	1,200
South Casper	570
Poison Spider	260
Waugh dome	230
Miscellaneous	240
Total Wyoming	41,560
MONTANA	
Buckley-Border	150
Cat Creek	700
Cut Bank	11,250
Kevin-Sunburst	4,720
Lake Basin	40
Pondera	1,520
Total Montana	18,380
COLORADO	
Florence	220
Fort Collins and Wellington	310
Iles Dome	2,470
Moffat	440
Orchard	50
Rangely	90
Tow Creek	160
Total Colorado	3,740
NEW MEXICO	
Artesia	630
Cooper	7,100
Eunice	23,840
Hobbs	24,290
Hogback	140
Jal	3,370
Lea	1,020
Maljamar	2,510
Monument	12,500
Rattlesnake	790
Table Mesa	100
Total New Mexico	76,290
Total Rocky Mountain region	139,970

Arkansas Conservation Bill

The general legislative assembly of Arkansas will convene on January 11. It is expected a new proration or minerals conservation bill will be introduced at this session of the legislature.

DEPARTMENT OF GEOGRAPHY
THE UNIVERSITY OF NEBRASKA

PERSONAL

H. E. EVERETT, of Los Angeles, Calif., has been made president of the Casmite Corporation, which recently established offices in Los Angeles. All the physical assets of the Casmite Company, which heretofore has been a wholly-owned subsidiary of the O. C. Field Gasoline Corporation, have been absorbed into the Casmite Corporation. Mr. Everett, who was sales manager of the old Casmite Company, has been made president of the new corporation, which will act as a sales organization to sell asphalt products of the merged companies.

A. W. TRUSTY, chief chemist of the Louisiana Oil Refining Corporation, was principal speaker at technical group meeting of Arkansas-Louisiana-Texas division of Western Petroleum Refiners Association at ElDorado, Ark., on December 11.

H. K. V. TOMPKINS, vice president of George F. Getty, Inc., has opened an office in the Trinity Life Building in Fort Worth, Tex., headquarters for operations in Texas.

A. R. CAMPBELL, secretary of Louisiana-Arkansas division of Mid-Continent Oil and Gas Association, Shreveport, La., has been attending to business matters in New Orleans, La., during the past week.

RALPH D. COPELY, petroleum engineer of Standard Oil Company, and who has worked in practically every Los Angeles Basin field, has been transferred to the company's headquarters at Denver, Colo., as operating engineer in the Rocky Mountain area.

J. L. MATHIEU, with the Schlumberger Well Survey Corporation, Houston, Tex., addressed members of the Fort Worth Geological Society in the latter city on the evening of December 10. He discussed Schlumberger surveys in wells of West Texas and southeastern New Mexico.

SAMUEL CHASE WILSON, under engagement by P. T. KOHLHEIM, trustee, is working a large block of leases in the eastern part of Grenada County, Mississippi, from a geological standpoint. Mr. Wilson has specialized in the Upper Mississippi Embayment for several years.

W. N. O'ROARK, scout for Standard Oil Company of Louisiana, was reelected president of the Shreveport Oil Scouts' Association for the ensuing year. W. BRANTLEY JACKSON, Magnolia, and OVID J. ROBICHEAUX, with the Arkansas-Louisiana Gas Company, secretary-treasurer.

TRAVIS O. WRIGHT, in the civil engineering department of the Humble Oil & Refining Company, has been transferred from Midland to Houston, Tex. MISS FLOYD HASSELL has also been moved to Houston from the Midland office and HENRY MEADOWS, in the civil engineering department, has been transferred to Houston.

DANA HOGAN, president of Hogan Petroleum Company, has been elected chairman of the wildcat committee of the California Oil and Gas Association for the coming year. He will be assisted by FRANK MORGAN, vice president of Rio Grande Oil Company, who has been elected vice chairman, and J. R. PEMBERTON, California oil umpire, who will be treasurer.

NOBLE WARD has returned to the Trinidad fields after a holiday spent in Petrolia, Ontario, and vicinity.

H. H. JOHNSON, with the Gulf Oil Corporation at Houston, Tex., was a business visitor in Fort Worth, Tex., during the week.

J. J. CONRY, of Tulsa, vice president of the Carter Oil Company, is recovering from an operation. He has been discharged from St. Johns Hospital and is at his home.

R. L. PATTINSON, of Chatham, Ontario, who recently accompanied MRS. PATTINSON and family to Paris, France, is making a tour of Belgium, Germany and Italy.

P. C. THOMAS, manager of the Houston, Tex., district of the Shell Petroleum Corporation marketing department, has been transferred to St. Louis, Mo., where he will be sales manager of the central district.

LUTHER CLARK, scout for the Carter Oil Company in northwestern Oklahoma, has been transferred to western Kansas as scout and land man. CHARLES D. WELLS heretofore has been handling all scouting in Kansas for the company. HARRY KISER, formerly in the Tulsa office, will scout the northwestern Oklahoma district.

ANDREW M. ROWLEY, secretary, director and publicity manager of the First International Consumers Petroleum Exposition, scheduled to be held in Detroit in January, has resigned and severed all connections with the company and has returned to Tulsa from Detroit. Mr. Rowley tendered his resignation November 14 but was prevailed upon by other stockholders and directors to remain in Detroit to aid in working out plans for the proposed exposition.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Joseph Seep becomes president of the South Penn Oil Company. The Seep Purchasing Agency has been abolished and hereafter South Penn Oil Company will be the buyer of Pennsylvania grade crude.

The late John W. Gates' estate is appraised at $11,000,000 net. It grossed $18,500,000.

The Texas Company's Lockport, Ill., refinery is rapidly nearing completion.

20 YEARS AGO

Mid-Continent crude oil is raised to $1.30 per barrel by Sinclair Oil & Refining Company.

Judge Flannelly, of Independence, Kans., becomes counsel for the Prairie Oil & Gas Company.

The Chicago tank-wagon price of gasoline is 18½ cents (no tax). The filling station price in Tulsa is 21 cents per gallon (no tax).

Carter Oil Company pays $1,000,000 for leases near Eldorado, Kans., producing 3,000 barrels per day, and Sinclair Oil & Refining Company pays a million for properties near Augusta, Kans.

10 YEARS AGO

Comar Oil Company, Magnolia Petroleum Company, Sinclair Oil & Gas Company and Gypsy Oil Company were the largest oil producers in Oklahoma this year. In Texas the big four were Gulf Production Company, Humble Oil & Refining Company, Texas Company and Magnolia Petroleum Company.

George W. Barnes, Jr., pioneer operator in the Glenn pool in Oklahoma, dies in Muskogee, Okla.

DR. ROBIN WILLIS, geologist, of Calgary, Alberta, made a motor trip recently from that city to Los Angeles, Calif.

KIRBY PENICK, vice president of the Oil Center Tool Company, Houston, Tex., is confined to his home, where he is recovering from a recent operation.

W. F. BENNETT is new production foreman for Pure Oil Company in charge of operations in the Seminole city field, Oklahoma. He succeeds G. W. HEAPE, who has been transferred to Kansas.

F. H. THRAILKILL, district manager, and J. A. MUSSLER, district manager of tubular sales of the Continental Supply Company, Houston, Tex., were in North and West Texas territory the past week.

LEON KRAUSE has joined the staff of Geologic Standards Company, with core testing and engineering laboratories in Tulsa. He formerly was employed in production and refining divisions of Quaker State Oil Refining Corporation, at Bradford, Pa.

J. K. ELLIS, superintendent of the Oklahoma division of the Carter Oil Company, recently resigned to take effect on January 1, 1937. The division has been combined with the northern division under the direction of W. B. CRUTCHER, as superintendent.

W. G. GISH, manager of the Sinclair Prairie Oil Company, Texas division, at Fort Worth; H. SMITH CLARK, the company's chief geologist in Texas; BEN F. HORTON, of Wichita, head land man in Kansas, and C. W. HORSTMIER, land man at Enid, Okla., attended a meeting with Sinclair Prairie executives in the Tulsa office the past week.

PARAGRAPHS

P. C. MURPHY, division manager for Phillips Petroleum Company, Shreveport, La., and R. L. STEWART and G. R. ELLIOTT, engineers for same company, were at the home office in Bartlesville, Okla., last week.

ROBERT W. ATHA, formerly of Stewart-Atha, Inc., drillers and producers at Mount Pleasant, Mich., recently has severed his connections with the firm to engage in leasing and drilling some of his own acreage in central Michigan.

RICHARD T. LYONS, who recently resigned as a vice president, director and head of the land and geological departments of Skelly Oil Company, was guest of honor at a dinner given by W. G. SKELLY, president of Skelly Oil Company, at the Verdigris Club, east of Tulsa, on Wednesday, December 9. The guests numbered about 55, among whom were executives and department heads of the company, as well as all employes in the Tulsa office of the land and geological departments. Mr. Lyons was presented with a friendship scroll upon which appeared the names of all officials of the company and members of the two departments under his supervision, and a very fine wrist watch, a token of appreciation from all who were associated with him. Mr. Lyons has gone to Houston, Tex., where he will be manager of the land and geological departments of the Tide Water Associated Oil Company.

JOHN A. BROWN, president of Socony-Vacuum Oil Company, Inc., has accepted appointment as chairman of the committee of the petroleum industry, which will participate in the campaign to finance the New York World's Fair of 1939.

V. V. JACOMINI, vice president of the Petroleum Conversion Company, was expected to return to Muskegon, Mich., this week from New York to visit the new T.V.P. vapor phase cracking unit recently installed under his direction by the Old Dutch Refining Company of Muskegon.

C. R. SANDMANN, with the Gulf Refining Company at Knoxville, Tenn., has been promoted to agent in charge of the Knoxville offices. Mr. Sandmann succeeds PAUL E. NICHOLS, who has been transferred to the New Orleans, La., division offices. FOSTER C. BROWN, state superintendent of the Texas Company, likewise has been transferred to New Orleans. He will be manager of sales promotion for Tennessee, Louisiana, Arkansas and Mississippi. Mr. Nichols will leave for New Orleans shortly after Christmas.

J. M. NISBETT, manager of the geological and land departments of the Empire Oil & Refining Company, has tendered his resignation to take effect on January 1, 1937. He plans to reside in Upland, Calif., where his personal interests will take up most of his time. Mr. Nisbett graduated from Stanford University in 1916 and very soon after joined the Empire organization. He did geological and land work in Kansas, Texas and Louisiana and was then transferred to the main offices of the company in Bartlesville, Okla. He was made chief geologist in 1921 and in 1934 was promoted to his present position.

J. C. PRINE, formerly of Mobile, Ala., has moved to Shreveport, La., to head the newly organized Louisiana & Alabama Oil Company, Inc., with offices in the Ardis Building, Shreveport.

W. FAY BECKER has returned to Calgary, Alberta, from a business trip to Vancouver, British Columbia.

BEN H. BLAND, scout for the Shell Petroleum Corporation, with headquarters at Kilgore, Tex., is spending his vacation at Houston, Tex.

CLARK E. MILLISON, regional geologist in Oklahoma for the Shell Petroleum Corporation, has returned to his work after several weeks' illness.

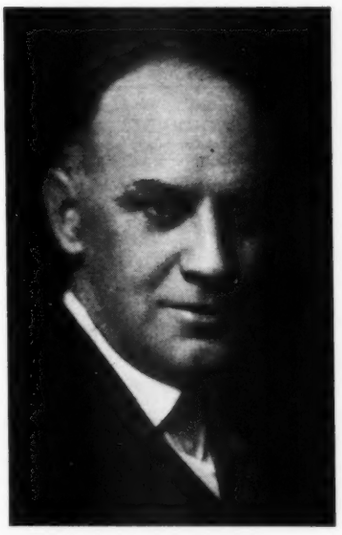
JOHN FOWLSTON has joined the staff of the Tri-County Gas Company at Scott City, Kans. He formerly was superintendent of the North American Oil & Gas Company at Amarillo, Tex.

J. L. MINNER, who has been assistant manager of the fuel oil department of Shell Petroleum Corporation for three years, has been appointed fuel oil manager. He has been with the company 11 years and previous to his appointment as assistant fuel oil manager he was manager of the shipping and supplies department and assistant manager of the tankcar sales department.

P. E. LAKIN, vice president in charge of marketing of Shell Petroleum Corporation, announces that DR. R. T. GOODWIN, manager of the fuel oil department, is to be transferred to Shell's eastern affiliate, Shell Union Oil Corporation, New York, as fuel oil manager, effective December 15. Dr. Goodwin serves on the United States navy fuel committee, and is a member of the fuel oil committee of the American Society for Testing Materials. He has been associated with Shell Petroleum Corporation since 1932 when he was made manager of the fuel oil sales department.

Fired Into Oil Industry

You might say L. B. McCammon, long active in oil affairs in the southwest, was fired into the industry. He was employed in a Pittsburgh, Pa., bank when the president, who knew the youth thoroughly, announced casually, "Lewis, I'm firing you." Lewis asked why. "No future here. Get into oil." Then the banker explained a job was waiting, and young McCammon soon was assistant treasurer of two natural gasoline companies, affiliates of the Benedum-Trees organization. In the World War Mr. McCammon served in a special oil and gas unit. The war over, he joined his former employers and was placed in charge of a new refinery in Fort Worth, Tex.



L. B. McCAMMON

When the Transcontinental Oil Company was formed from certain Benedum-Trees units Mr. McCammon was made assistant to O. D. Robinson, vice president. In 1924 he was appointed western division manager, with his office in Tulsa. Six months later he was promoted to vice president and director in charge of sales and refining. Transcontinental was acquired by the Ohio Oil Company in 1930 and was operated as the Marathon Oil Company till July, 1936, when it became the Marathon division of the parent concern. Mr. McCammon was made sales manager of the division.

Mr. McCammon, who was born in Wheeling, W. Va., married Miss Catharine Jeffers, of that city, and they have three children. He is a leader in civic and church activities.

J. I. WHEELER, in charge of storage department in the St. Louis, Mo., office of the Shell Petroleum Corporation, was in Tulsa last week.

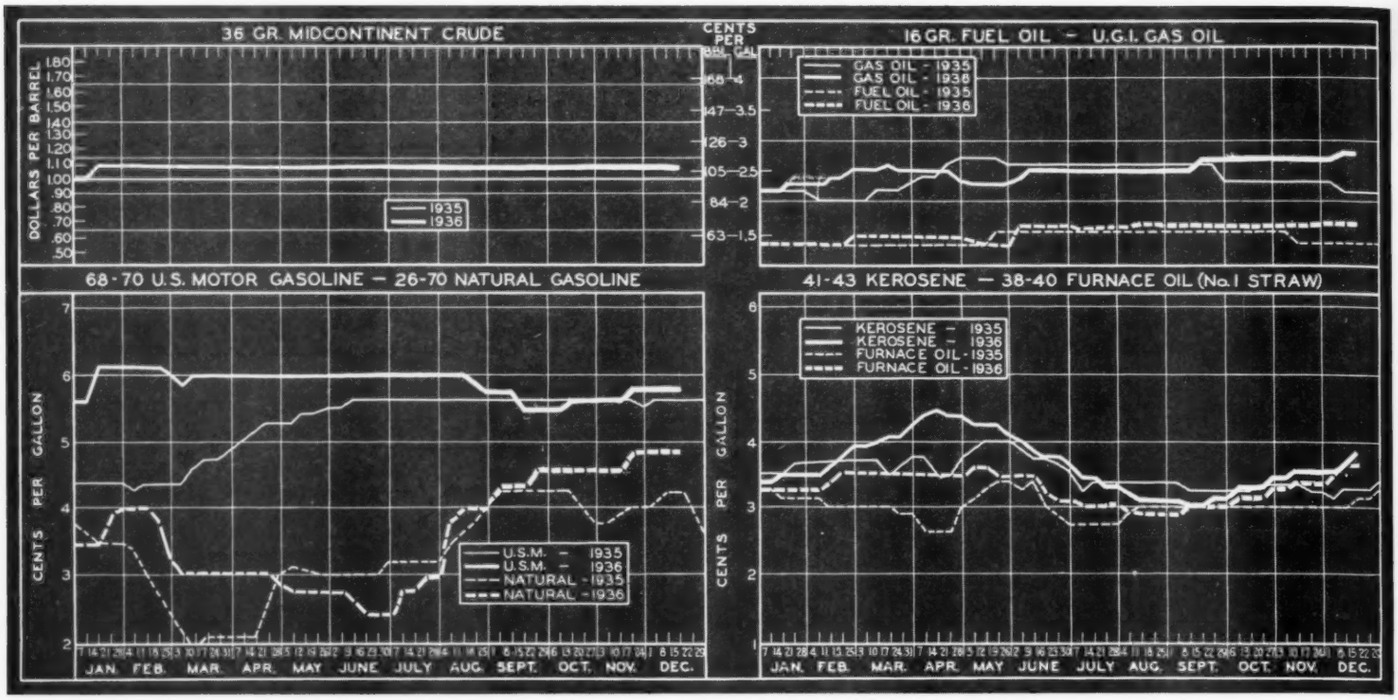
T. F. BIRMINGHAM, president of Margay Oil Corporation, has moved the headquarters of the company to the Oklahoma Natural Gas Building in Tulsa, where more commodious offices were available.

E. L. GREEN, deputy oil and gas supervisor of the Gulf Coast district for the Railroad Commission at Houston, Tex., has resigned, effective December 15, to become associated with the Cabot companies at Pampa, Tex.

A. J. ROGERS, president and general manager of the Navy Oil Company, operating in the San Joaquin Valley area, California, has become associated with DR. J. J. REKAR in the development of several mining claims.

D. F. GERSTENBERGER has been named Mid-Continent representative for the Alcorn Combustion Company to take over the offices of the company in Tulsa. H. E. RIDGEWAY, the former representative, has resigned and is establishing an office in St. Louis, Mo.

H. P. TAUBMAN, president of the Taubman Supply Company, Tulsa; G. A. TOMPSON, vice president in charge of sales, and V. W. BAILEY, purchasing agent, attended the public opening of the company's new Houston, Tex., offices, yards and warehouse last Saturday. Three thousand people visited the Houston plant which serves the Gulf Coast region of Texas and Louisiana. C. C. CARTER, of Dallas, Tex., vice president, and a number of branch managers attended the opening.


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
CENTS PER GAL
1935
1936
16 GR. FUEL OIL - U.G.I. GAS OIL
GAS OIL - 1935
GAS OIL - 1936
FUEL OIL - 1935
FUEL OIL - 1936
68-70 U.S. MOTOR GASOLINE - 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1935
U.S.M. - 1936
NATURAL - 1935
NATURAL - 1936
41-43 KEROSENE - 38-40 FURNACE OIL (No. 1 STRAW)
KEROSENE - 1935
KEROSENE - 1936
FURNACE OIL - 1935
FURNACE OIL - 1936
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Group 3 Refinery Market Tightening With Higher Prices in Prospect

By T. F. SMILEY

Increasing tightness of gasoline, kerosene, distillates and fuels was apparent in the Group 3 market this week, with higher prices indicated.

Leading marketers throughout Oklahoma raised their pump prices for gasoline 1 cent on Monday, the consumer now paying 20 cents for the regular grade and 16 cents for third grade. This action lends encouragement to refiners who have been hoping for higher tankcar prices. Refiners whose operations are restricted to this one branch of the oil business have declared for months they were unable to make a profit, and some have asserted they were incurring actual loss. One large refiner in East Texas, operating on crude eligible for federal tenders, found he was using the red ink from month to month; so he recently leased his plant to another refiner, who is running it on crude eligible for state tenders only and available at a lower price. The output is distributed by truck to retail outlets inside the state.

OPERATING AT A LOSS

Owners of skimming plants who must buy their crude say they get a total of about $1.20 for the products they obtain from a barrel of oil. The barrel of oil, however, with the gathering charges and overhead expenses added, costs not far from $1.30. In the case of cracking operations both figures are higher, but the indicated loss is about the same.

Integrated companies, although not at so distinct a disadvantage as concerns limited to refining operations only, are in much the same case so far as the refining branch is concerned. Their profits are understood to be coming mainly from their producing and pipe line operations. Thus all refiners seem to be facing the problem of getting tankcar prices up to a point at which they can garner a reasonable return on their investment even at the present level of crude prices. The problem takes on a more serious aspect in the light of announced increases in the prices for crude to take effect early in January. A leading Oklahoma refiner said this week that to compensate for the higher crude prices in prospect it would be necessary for the tankcar prices of gasoline and kerosene to be raised 1 cent a gallon above those prevailing in December and prices of distillates and fuels a half-cent.

Stocks of gasoline, kerosene and distillate in the hands of independent Mid-Continent refiners were reported low. One of the large independent integrated companies said that its stocks, in point of both volume and dollar value, were at the lowest level touched in the past 10 years.

All grades of low cold-test heating oils are in lively demand. Advent of wintry weather in the northern areas has given rise to such an urgent appeal for furnace oils that in some cases kerosene is being drawn upon.

CHEAP OIL IN CANS

The poor showing of the lubricants in contrast with the strength of the same group in the eastern and Gulf Coast markets has stirred comment. One reason offered for the hard going experienced by Mid-Continent lubricants is the competition of cheap canned material. The custom adopted by large refiners of distributing high-grade motor oil in cans to protect the consumer from substitutions gave rise to a bright idea. The guarantee of quality in the case of the better-known canned oils put a halo around the can itself in the eyes of unsuspicious motorists. So a flourishing trade is said to have been built up in motor oil which has nothing to recommend it except that it comes in cans. Some small refiners can their own output. In other cases the refiners, including well-known companies, sell to jobbers an inferior product which they would not care to distribute under their own names. The jobber does the canning. In either instance an impressive label is used. The can is opened in the presence of the motorist, who pays 15 cents a quart in the belief that he is getting a superior oil at a bargain. Really the oil is worth what he pays for it—or less.

Natural gasoline demand was in balance with supply at unchanged prices, and a steady market was expected to continue till the end of the year.

Refined Oil Market Barometer

Kerosene the market leader, with distillates and fuels in urgent demand. Wholesale and retail prices of these products moving to higher ground and tankcar prices of gasoline expected to break from present levels. The upward trend, some of it contraseasonal, is ascribed not only to lively demand, but to the policy of adjusting prices to the expected higher cost of crude.

MID-CONTINENT. Kerosene and light and heavy fuels strong. Gasoline firmer.

EAST COAST. Kerosene vigorous. Heating oils tight. Heavy fuels firm.

GULF COAST. Gasoline up. Kerosene and burning oils strong.

CALIFORNIA. Naturals weaker. Fuel oil and diesels soft.

PENNSYLVANIA. Kerosene up. Low-octane gasoline softer. Lubricants firm.

CHICAGO. Market generally in strongest position held in years.

Sharp Demand for Kerosene Bolsters Product in Eastern Coast Market

By H. STANLEY NORMAN

NEW YORK, Dec. 15.—Continued sharp demand for kerosene by immediate consumers and by blenders bolstered the market on that product in eastern territory last week and brought advances by most refiners to 5 cents per gallon. High tanker charter rates applying on coastwise transportation and firmness of the kerosene market on the Gulf Coast contributed their relative shares to the higher tankcar market now generally posted.

Temperatures hovering around or under the freezing point are forcing wider use of heating material. Anticipated record demand and stocks which are none too abundant in view of consumption are factors in the light fuel oil picture arguing against concessions by sellers.

Heavy fuel oil and diesel oil were advanced at several foreign ports last week by Standard Oil Co. of New Jersey and at one point diesel was adjusted downward.

At Tampico and Vera Cruz, fuel oil was raised a nickel to 95 cents per barrel. At Callao, Peru, fuel oil and diesel oil were raised 25 cents per barrel to $2 and $2.50 per barrel for the respective products. At Talara, Peru, fuel oil was increased 15 cents per barrel making present quotation $1.45 and diesel oil was raised a dime to $1.85 per barrel.

At Fort Williams and Hamilton, Ont., diesel oil prices were raised two-tenths of a cent per Imperial gallon advancing quotation at the former point to 10.4 cents and at the latter to 7.5 cents per gallon. At Sarnia, Ont., the diesel fuel price was raised from $2.20 to $2.275 per barrel and at St. Johns, Newfoundland, the price was lowered from 16.00 to 14.5 cents per Imperial gallon. St. John, New Brunswick, where diesel fuel was formerly offered subject to quotation, now has a posted price of $2.30 per barrel.

Activity in the coastwise or export kerosene, light fuel oil and gasoline business at Gulf Coast refineries continued brisk with prices moving upward. Two full cargoes of 41-43 water-white kerosene were sold in the Gulf Coast district last week for 4.25 cents, a quarter of a cent above actual consideration in the last previous business. Both cargoes were sold to the same company and will move this month. One or two other cargoes of the same material were reported sold and the general opinion is that prices probably will go to 4.375 or higher within a few weeks.

Prices on the Gulf Coast had a tendency to firm the tankcar market in the northern Atlantic seaboard territory, particularly in view of tanker charter rates ranging from 40 to 42 cents per barrel. Tank-wagon prices in the New York district are relatively unchanged, but in view of the narrowed margin between tankcar and tank-wagon quotations, most market observers would not be surprised to see this condition eased somewhat in the near future.

There seems unmistakable evidence of the crude oil market trends influencing product prices. While improvement in some products was noted prior to Continental Oil Co.'s crude price announcement Dec. 4, there has been a rush into higher ground wherever conditions warranted such action in the least. Refiners were frank to admit in the eastern territory that they were availing themselves of what opportunities are presented to prepare the market end of the business to carry at least a part of the possible increased cost of raw material.

The two cargoes of No. 2 fuel oil sold on the Gulf Coast last week specified material of 30 plus and a minimum of 20 pour point at 3.625 per gallon. Reports were circulated at the close of the week on a cargo of No. 2 fuel oil selling on the Gulf Coast at 3.75 per gallon, but this was considered the current top and may have covered material for future delivery.

Kerosene and fuel oil in the Pennsylvania grade refining district were reported less active, but refiners are showing no disposition to push material on the market if a price sacrifice is involved in the business. Bright stock and neutrals retained their strong position in the Pennsylvania district during the week, but very little material is in sight until after January 1. Most refiners report their entire production for remainder of this year covered by contract. This condition applies to both bright and neutral material, which have been moving briskly in export trade and in a satisfactory volume to domestic buyers.

Gasoline of less than 65 octane rating is available in the Pennsylvania district at prices fractionally below general quotations, but the higher grades are tightly held. Availability of gasoline slightly off specification has been a factor in the Pennsylvania grade market for three or four weeks and probably is contributing at least proportionately to the unsettled retail conditions in certain parts of that territory.

Business in various grades of wax in Pennsylvania was reported satisfactory with numerous refiners in no position to supply business remainder of this or the first half of next month. There appeared a tendency to ask higher prices although the 124-126 white scale generally is moving at 2.45 to 2.5 cents for small lots and spot shipment.

Suppliers are reluctant to quote current prices for deferred delivery, although buyers are reported ciculating inquiries for their early 1937 requirements.

The volume of gasoline business in New York territory continues to exceed expectations and there is less cut-rate tankcar business apparent in the market. The 65 octane gasoline available as 6.25 cents per gallon in tankcars had been absorbed to a large extent before the Continental Oil Co.'s crude price announcement. What little was left at that time either found ready purchasers or was withdrawn by the suppliers anxious to take advantage of what other advances may accrue to sellers before effective date of the crude price advance.

At the end of last week, major oil purchasers with headquarters in New York remained officially silent on what they will do regarding the crude advance on Jan. 4. In some of the major company boards there was a division of opinion on what action should be taken. It was quite evident, however, that addition of at least on major company to the list of those already committed to advance crude prices Jan. 4, probably will precipitate action from the entire group. All seem inclined to await developments between now and Jan. 4 before taking action. Generally speaking, the larger crude oil buyers seem doubtful that refined markets justify the amount of increase Continental has announced it will start paying Jan. 4.

There appears a possibility now that the absence of action by major crude buyers may extend beyond the effective date stipulated in Continental's declaration, in which case the smaller purchasers forced to protect their crude connections or even willing to take the opportunity to obtain more, may hold the decisive trick.

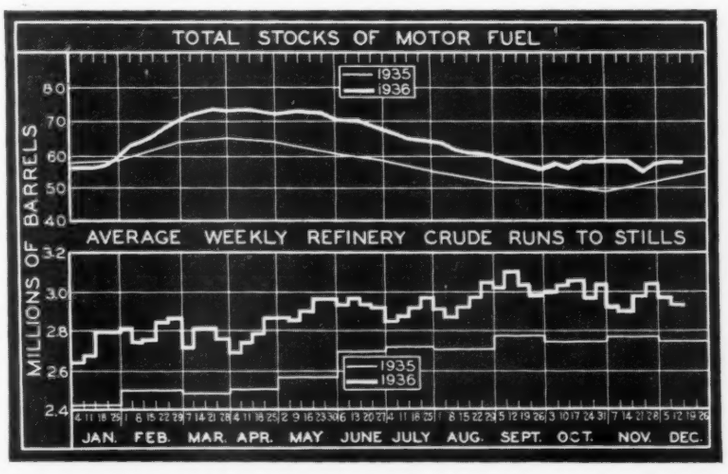
Even among the buyers not in sympathy with the crude increase at this time, it appears quite obvious they will not tolerate any deep raids on their field connections. Purchasers are making preparations to partially supply their affiliated refineries, or crude customers with other than current production for the last week of December.

A. P. I. Weekly Refinery Statistics

Week Ending December 12, 1936

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	510,000	14,072,000	10,714,000
Appalachian	94.8	98,000	2,130,000	634,000
Indiana, Illinois, Kentucky	96.2	428,000	8,572,000	5,689,000
Oklahoma, Kansas, Missouri	84.8	271,000	5,550,000	3,331,000
Inland Texas	48.5	115,000	1,724,000	1,773,000
Texas Gulf	97.0	600,000	7,491,000	7,300,000
Louisiana Gulf	96.4	129,000	1,498,000	1,858,000
North Louisiana and Arkansas	90.0	46,000	287,000	528,000
Rocky Mountains	61.9	45,000	925,000	775,000
California	92.6	490,000	12,248,000	73,405,000
Total reported	89.9	2,732,000	54,497,000	106,007,000
Estimated unreported		223,000	3,518,000	2,262,000
*Estimated total		2,955,000	58,015,000	108,269,000
*Estimated total previous week		2,990,000	57,696,000	110,287,000
†December 31, 1935		2,741,000	56,693,000	103,984,000

*Bureau of Mines basis, currently estimated. †Monthly report, U. S. Bureau of Mines.



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of December 15, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Inc. tax	Kero. tank-wag.
Chicago, Ill.	15.7	13.7	4.0	9.5
Decatur	15.7	14.2	4.0	9.5
Joliet	14.8	14.2	4.0	9.5
Peoria	15.7	14.2	4.0	9.5
Quincy	15.5	14.0	4.0	9.3
Davenport, Ia.	15.7	14.2	4.0	9.5
Des Moines	15.5	14.0	4.0	9.3
Mason City	15.9	14.4	4.0	9.7
Sioux City	15.7	14.2	4.0	9.5
Duluth, Minn.	16.5	15.0	4.0	10.3
Mankato	16.1	14.6	4.0	9.9
Twin Cities	16.1	14.6	4.0	9.9
La Crosse, Wis.	17.1	15.6	5.0	9.9
Green Bay	17.4	15.9	5.0	10.2
Milwaukee	17.0	15.5	5.0	9.8
Detroit, Mich.	14.5	13.0	4.0	8.9
Grand Rapids	16.2	14.7	4.0	10.0
Saginaw	16.0	14.5	4.0	9.8
Evansville, Ind.	17.2	15.7	5.0	†10.0
Indianapolis	17.4	15.9	5.0	†9.0
South Bend	17.6	16.1	5.0	†9.0
Fargo, N. Dak.	17.1	15.6	4.0	10.9
Minot	18.3	16.8	4.0	12.1
Huron, S. Dak.	17.6	16.1	5.0	10.4
Kans. City, Mo.*	15.1	13.6	4.0	8.0
St. Louis*	15.4	13.9	4.0	9.2
St. Joseph*	15.1	13.6	4.0	8.9
Wichita, Kans.	14.6	11.8	4.0	8.0

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Atl'tic City, N.J.	12.5	....	4.0	8.0
Newark	12.5	....	4.0	7.5
Annapolis, Md.	14.6	....	5.0	10.0
Baltimore	14.0	....	5.0	8.0
Cumberland	16.6	....	5.0	10.0
Wash'g'n, D.C.	12.0	15.5	3.0	9.0
Danville, Va.	17.2	20.7	6.0	12.9
Norfolk	16.0	....	6.0	11.3
Petersburg	16.3	19.8	6.0	11.7
Richmond	16.3	19.8	6.0	11.7
Roanoke	17.5	....	6.0	12.9
Charles'n, W.Va.	15.8	....	5.0	12.6
Parkersburg	15.1	....	5.0	11.2
Wheeling	15.0	....	5.0	12.2
Charlotte, N. C.	18.4	....	7.0	12.6
Hickory	18.9	....	7.0	13.0
Mt. Airy	18.7	....	7.0	12.8
Raleigh	18.0	....	7.0	12.1
Salisbury	18.5	....	7.0	12.7
Charleston, S. C.	17.0	20.5	7.0	11.1
Columbia	18.0	21.5	7.0	12.1
Spartansburg	18.7	22.2	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail price.

Price basis to commercial consumers, effective Nov. 2, 1936: On deliveries of 500 gallons or more by hose connection, consumer tankcar price plus .5 cent; less than 500 gallons, plus .75 cent, not taking deliveries by hose connection, plus 1 cent. Above schedule does not apply to North and South Carolina, and the greater portions of Virginia and West Virginia where the following is in effect: Up to 35,999 gallons per year, 2.5 cents over tankcar price; 36,000 to 119,999 gallons, 2.0 cents; 120,000 to 239,999 gallons, 1.5 cents; 240,000 to 479,999 gallons, 1.0 cent; over 480,000 gallons, .5 cent. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Atlanta, Ga.	20.5	22.5	7.0	*13.0
Augusta	19.5	....	7.0	*12.5
Macon	20.0	22.0	7.0	*14.0
Savannah	18.5	20.5	7.0	*12.5
Birm'ham, Ala.	21.0	23.0	8.0	12.0
Mobile	19.0	21.0	9.0	11.0
Montgomery	20.5	21.0	9.0	14.0
Jackson, Miss.	20.0	22.0	7.0	*12.5
Vicksburg	19.5	....	7.0	12.5
Jacksonville, Fla.	19.0	21.0	8.0	11.5
Miami	19.0	21.0	8.0	12.5
Pensacola	21.5	23.5	9.0	10.5
Tampa	19.0	20.5	8.0	11.5
Lexington, Ky.	18.0	20.0	6.0	11.0
Covington	17.5	....	6.0	10.5
Louisville	18.0	20.0	6.0	10.0
Paducah	16.5	....	6.0	8.0

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Denver, Colo.	17.0	....	5.0	11.0
Grand Junction	19.5	....	5.0	15.0
Pueblo	17.0	....	5.0	10.0
Casper, Wyo.	17.5	....	5.0	11.5
Cheyenne	17.5	....	5.0	13.0
Butte, Mont.	19.0	....	6.0	14.5
Billings	20.5	....	6.0	14.5
Helena	20.5	....	6.0	14.5
Great Falls	20.5	....	6.0	14.5
Salt Lake, Utah.	19.0	....	5.0	16.0
Twin Falls, Ida.	21.0	....	6.0	18.0
Boise	20.5	....	6.0	18.0
Albu'que, N. M.	17.0	....	6.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price 4 cents except in Montana where a discount of 2 cents off tank-wagon price is allowed; divided dealer accounts 3½ cents.

Pacific Coast Territory

STANDARD OIL CO OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
San Francisco	17.0	18.0	4.0	11.5
Los Angeles	16.5	17.5	4.0	9.0
Fresno, Calif.	17.5	18.5	4.0	11.0
Phoenix, Ariz.	20.5	21.5	6.0	‡16.0
Reno, Nev.	19.5	20.5	5.0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash.	19.5	20.5	6.0	13.5
Tacoma	19.5	20.5	6.0	13.5
Spokane	22.5	23.5	6.0	16.5

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

‡Includes 5-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Post. deal.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Albany, N. Y.	12.7	....	4.0	7.75
*Met. N. Y.:				
Manhtn, Bronx	12.7	....	4.0	7.25
Staten Island	13.0	....	4.0	7.25
Qu'ns & Br'klyn	12.7	....	4.0	7.25
Buffalo	13.5	....	4.0	8.25
Rochester	13.5	....	4.0	8.25
Syracuse	13.5	....	4.0	8.75
Boston, Mass.	12.5	....	4.0	7.50
Portland, Me.	14.5	....	5.0	7.75
Manch'ter, N. H.	15.0	....	5.0	8.00
Burlington, Vt.	14.7	....	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag. dlr.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Philadelphia, Pa.	13.5	16.0	5.0	9.5
Pittsburgh	16.0	19.5	5.0	10.0
Allentown	14.0	....	5.0	10.0
Erie	15.0	....	5.0	10.0
Scranton	14.0	....	5.0	10.0
Altoona	16.0	....	5.0	10.0
Dover, Del.	14.0	....	5.0	10.0
Wilmington	13.0	....	5.0	10.0
Springf'd, Mass.	13.0	....	4.0	7.0
Worcester	13.5	....	4.0	7.75
Hartford, Conn.	12.9	....	4.0	7.0
New Haven	12.8	....	4.0	7.5
Providence, R. I.	11.5	....	3.0	7.0

Price basis to undivided dealers—Dealer tank-wagon less .5 cent per gallon.

Consuming accounts not under contract—when made by tank-wagon in quantities of 50 gallons or over, tank-wagon dealer price.

Commercial accounts under contract—annual consumption 2,500 to 100,000 gallons per year, 1 cent above posted tankcar price; over 100,000 gallons per year, .5 cent above posted tankcar price.

Naphtha

STANDARD OIL CO (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
N. Orleans, La.	19.5	23.0	*10.0	†11.0
Baton Rouge	17.5	21.0	8.0	11.5
Alexandria	18.0	....	8.0	9.5
Lafayette	18.5	....	8.0	12.5
Lake Charles	18.5	....	8.0	10.0
Shreveport	17.0	....	8.0	10.0
Knoxville, Tenn.	20.5	....	8.0	14.0
Memphis	18.5	22.0	8.0	9.5
Chattanooga	20.0	....	8.0	11.5
Nashville	19.5	....	8.0	10.0
Bristol	19.25	....	8.0	14.5

*Includes 2-cent parish tax. †Includes 1 cent parish tax and 1 cent state tax.

Price basis to commercial consumers: Louisiana, effective Aug. 15, 1935. Contract consumers 2.5 cents above tankcar price less the following discounts on a gallonage basis; 3,001 to 10,000 gallons per month, .5 cent; 10,001 to 20,000, 1.0 cent; 20,001 to 40,000 gallons, 1.5 cents; over 40,000 gallons per month, 2.0 cents. In Tennessee, effective Feb. 11, 1935, commercial consumer at the tankcar price plus the following: Up to 35,999 gallons per year, 2.5 cents; 36,000 to 119,999 gallons, 2.0 cents; 120,000 to 239,999 gallons, 1.5 cents; 240,000 to 479,000 gallons, 1.0 cent; over 480,000 gallons, .5 cent over tankcar.

Louisiana kerosene prices include 1-cent state tax.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Omaha	18.1	20.1	6.0	9.8
McCook	18.8	20.8	6.0	10.5
Norfolk	18.5	20.5	6.0	10.2
North Platte	18.9	20.9	6.0	10.6
Scotts Bluff	19.6	21.6	6.0	11.3

Note—Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by standard commercial consumers contract effective January 1, 1935.

Southwestern District

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Dallas, Tex.	15.0	17.0	5.0	7.5
Fort Worth	15.0	17.0	5.0	8.5
Houston	16.0	18.0	5.0	7.5
San Antonio	16.0	18.0	5.0	7.5
El Paso	17.0	19.0	5.0	8.0
Muskogee, Ok.	18.0	20.0	5.0	8.0
Okla. City	18.0	20.0	5.0	8.0
Tulsa	18.0	20.0	5.0	6.0
Ft. Smith, Ark.	16.5	18.5	5.0	8.0
Little Rock	19.0	21.0	7.5	8.0
Texarkana	16.5	18.5	5.0	8.5

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Ohio points	17.5	(†)	5.0	*13.5

*Includes state tax of 1 cent.

†Following the leasing of service stations to dealers at many points the company no longer posts a statewide service station price.

Canada*

3 Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Hamilton, Ont.	21.0	23.5	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	29.8	32.8	7.0	22.3
Winnipeg, Man.	28.2	31.2	7.0	20.7
Regina, Sask.	29.5	32.5	7.0	22.0
Saskatoon, Sask.	32.3	35.3	7.0	24.8
Edmonton, Alta.	30.5	33.5	7.0	24.2
Calgary, Alta.	28.0	31.0	7.0	21.5
Vancouver, B. C.	22.0	26.0	7.0	23.0
Montreal, Que.	18.5	....	6.0	17.5
St. John, N. B.	24.0	28.0	8.0	18.5
Halifax, N. S.	24.0	28.0	8.0	18.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal when discounts below station prices are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

Retail Price Changes

Standard Oil Co. (Indiana) December 9 advanced tank-wagon and dealer gasoline .3 cent at all points in the Central West except: No change in Detroit, .8 cent advance in Grand Rapids, and .4 cent advance in Saginaw; December 9 advanced tank-wagon kerosene .1 cent in Detroit, .7 cent in Grand Rapids and 3 cent in St. Louis and on the same date reduced tank-wagon kerosene .3 cent in Saginaw.

Standard Oil Co. of Kentucky November 24 advanced tank-wagon and station gasoline 1 cent in Jacksonville; November 24 reduced tank-wagon and station gasoline .5 cent in Miami; November 24 advanced tank-wagon gasoline .5 cent in Tampa: November 19 advanced tank-wagon and station gasoline 2 cents in Mobile and on November 24 reduced them to their former level; November 20 discontinued posting of service-station prices in Covington.

Continental Oil Co. December 1 put into effect the dealer market plan (commonly called Iowa Plan) and discontinued posting service station prices in New Mexico, Utah, Colorado, Wyoming, Montana and Idaho.

Standard Oil Co. of Nebraska December 5 advanced tank-wagon kerosene .3 cent and December 9 advanced tank-wagon and station gasoline .3 cent at all Nebraska points.

Emmanuel Wexler, associated with Ste. Produits du Petrole (Starnaptha), a licensed French company, was a business visitor in New York last week. Mr. Wexler plans to return to this country in a few months.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of December 15, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:

62 octane and below (3d gr.)	.04¾	.04⅞
63-67 octane	.05¼	.05⅝
68-70 octane (regular)	.05½	.05⅝
60-62 400 grades:		
62 octane and below (3d gr.)	.04¾	.04⅞
63-67 octane		.05⅜
68-70 octane (regular)	.05¾	.05⅞
64-66 375	.05	.05⅛
68-70 360	.05⅛	.05⅜
68-70 360	.05¼	.05⅜

NORTH TEXAS—

U. S. Motor grades:

62 octane and below	.04¾	.04⅞
63-67 octane	.05¼	.05½
68-70 octane (regular)	.05¾	.05⅞
60-62 400	.04¾	.04⅞
64-66 375	.05	.05⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:

62 octane and below	.05⅛	.05¾
63-67 octane	.06¼	.06½
68-70 octane (regular)	.06½	.06¾

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:

62 octane and below	.05½	.05¾
63-67 octane	.06¼	.06½
68-70 octane (regular)	.06½	.06¾

CHICAGO (Based on Group 3)—

U. S. Motor grades:

62 octane and below	.04¾	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05¾	.05⅞
60-62 400 grades:		
62 octane and below	.04¾	.04⅞
63-67 octane	.05⅛	.05¼
68-70 octane (regular)	.05¾	.05⅞
64-66 375	.05	.05⅛
68-70 360	.05¼	.05⅜

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:	
Below 60 octane	.05½
60-64.9 octane	.07
65-70 octane	.07¼
64-66 375	.05⅝
68-70 350	.06

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08
58-60 400	.07¾	.08½

EAST COAST (domestic)—

U. S. Motor below 60 octane:

*New York (Bayonne)	.06¼
Baltimore	.06¼
U. S. Motor, 60-64.9 octane:	
*New York (Bayonne)	.06½
Philadelphia	.06½ .06⅝
Boston	.06⅝
Baltimore	.06⅝
Charleston, S. C.	.06½ .06⅝
U. S. Motor, 65 and above:	
*New York (Bayonne)	.06⅝
Philadelphia	.06¾ .07
Boston	.07
Baltimore	.06¾ .07
Charleston, S. C.	.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:

Below 60 octane	.05½	.05⅝
64-64.9 octane	.05⅝	.05¾
65 octane and higher	.05⅞	.06

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05¾
52-54 450 (blending)	.05⅞
54-56 450 (blending)	.05½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.04¾
Grade 18-55	.05⅝	.05¾
Low vapor pressure grade:		
*14-pound v.p. (max.)	.06¼	.06⅜
*12-pound v.p. (max.)	.06⅝	.06⅞

*Nominal.

NORTH TEXAS—

Grade 26-70		.04⅝
Grade 18-55	.05⅜	.05⅝

CALIFORNIA—

75-85 375-390	.07	.07¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.05	.05⅛

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 l.b.p., 110 flash, 540-550 e.p.	.03⅝
41-43 gr., 300-350 l.b.p., 110-125 flash, 500-520 e.p.	.03¾
46-48 gr., 210-230 l.b.p., 480 max. e.p.	.04½

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03¾	.03⅞
42-44	.03⅞	.04

NORTH TEXAS—

41-43	.03¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04	.04¼

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04¼	.04½

PENNSYLVANIA (inland refineries)—

45	.04⅞	.05
46	.05	.05⅛
47	.05⅛	.05¼

CHICAGO (Based on Group 3)—

41-43	.03⅝	.03¾
42-44	.03¾	.03⅞

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½	.05

NEW YORK (Bayonne, N. J.)—

41-43	.05

*GULF COAST (domestic)—

41-43	.04⅝

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03¾
No. 1 straw, 38-40	.03⅝ .03¾
No. 2 straw, 32-36	.03½ .03⅝
No. 2 dark, 32-36	.03⅜ .03½
No. 3, zero to 15, 28-32	.03⅛ .03⅜
No. 3, 15 and above, 28-32	.02⅞ .03

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝ .03¾
No. 1 straw, 38-40	.03⅝ .03¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03⅜ .03½

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03¾
No. 3, 28-32	.03½

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-40	.03⅝ .03¾
No. 1 straw, 38-40	.03½ .03⅝
No. 2 straw, 32-36	.03½ .03⅝
No. 2 dark, 32-36	.03⅜ .03½
No. 3, zero to 15, 28-32	.03⅜ .03½
No. 3, 15 and above, 28-32	.02⅝ .02⅞

NEW YORK (Bayonne, N. J.)—

*No. 1	.04⅞ .05
*No. 2	.04¼ .04⅝
*No. 4	.04

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02¾	.02⅞
No. 4, low cold test, 24-28	.95	1.05
No. 4, 15 and above, 24-28	.80	.85
No. 5, low cold test, 18-22	.75	.80
Below 18 fuel oil, industrial	.70	.75

NORTH TEXAS—

U.G.I. gas oil		.02¾
No. 4, low cold test, 24-28	.95	1.00
No. 5, low cold test, 18-22	.75	.80
Below 18 fuel oil, industrial	.65	.75

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.02¾
10-14 fuel oil, industrial	.70	.75

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02½	.02⅝
No. 4, low cold test, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.80	.82½
No. 5, low cold test, 18-22	.75	.80
No. 6, low cold test, 10-16	.65	.70

PENNSYLVANIA (inland refineries)—

36-40	.04½	.04⅝

CALIFORNIA—

Los Angeles:

30-34 gas oil, per bbl.	.95	1.15
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.05	1.30
12-16 (bunkers at tidewater)	.85	.95
16-16 (cargo lots)	.75	.95
12-17 (tankcars)	.70	.95
San Joaquin Valley:		
10-18 (tankcars)	.70	.75
San Francisco:		
27 plus diesel		1.35
24 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03½	.03⅝
28-30 diesel (bunkers)		1.50
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		.95

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04½
28-30 diesel (lighterage 6¼ per bbl.)		1.65
28-30 diesel (tankcars)	.04¼	.04½
*Bunker C (to ocean-going ships in N. Y. harbor)		1.15
Industrial fuel (tankcars)		.03¾

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.20
150-160 D, 0-10		.17
150-160 D, 15-25		.16½
150-160 E, 15-25		.16
100-110 D, 0-10		.15½
Steam refined:		
631 green (treated)		.13
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade No. 8 color, 145-50 at 510; 540-550 flash):

10 pour test	.24	.24½
15 pour test	.23	.23½
20 pour test	.22	.22½
25 pour test	.21	.21½
Steam refined:		
600	.13	.13½
650	.14	.14½
600 Pennsylvania flash	.15	.15½
650 flash	.17	.17½
600 Warren E filtered	.16	.16½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:

150-3	.08½
180-3	.09½
180-4	.09
200-3	.10
200-4	.09½
256-3	.11
250-4	.10½
280-3	.12
280-4	.11½
300-3½	.12½
460-3½	.13½
160-2½ paraffin oil	.05¾
15-20 Cold Test:	
200-3	.09½
200-4	.09
250-3	.10½
250-4	.10
280-3	.11½
280-4	.11

GULF COAST—

Pale Oils:

200-3	.06½	.07
300-3	.07	.07½
500-3½	.08	.08½
750-3½	.08½	.09
1,200-3½	.09¼	.09½
2,000-4	.09½	.10
Red Oils:		
200-5-6	.06¾	.07
300-5-6	.07	.07½
500-5-6	.08	.08½
750	.08½	.09
1,200-5-6	.09	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:

100-2½-3		.06
200-2½-3		.06¼
300-3-3½		.06½
460-3-4		.08½
450-3-4	.08½	.09¼
550-3-4	.09¾	.10
600-3-4	.10	.10¼
	.10¼	.10½

Red Oils:

260-4-5		.06
300-5-6		.06¼
350-5-6	.07	.08
400-5-6	.08	.08¼
450-5-6	.08¼	.08½
500-5-6	.08½	.09
600-5-6½	.09	.09½
700-6½ plus	.09¾	.10
750-6½ plus	.10	.10¼
900-6½ plus	.10¼	.10½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:

Zero pour test	.21½	.22
10 pour test	.20½	.21
15 pour test	.20	.21½
25 pour test	.19	.19½
180 vis. at 70° F., 3 color:		
25 pour test	.21½	.22
200 vis. at 70° F., 3 color:		
Zero pour test	.25	.25½
10 pour test	.24	.24½
15 pour test	.23½	.24
25 pour test	.22½	.23

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02½	.02⅝

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0245	.0250
124-126 (a.m.p.) w.c. scale	.0250	.0255

NEW YORK—

Wax in bags fully refined:

122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
123-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0240	.0245
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05¼
60-62 400		.05⅜
61-63 390	.05⅜	.05½
64-66 375		.05⅝

LOS ANGELES—

U. S. Motor grades:

53-55 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05¼
Above 69 octane	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white		.04¼
41-43 water white		.04⅜
44 water white		.05

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:	
600 Warren E	.22½
600 S.R. unfiltered	.20
650 S.R. unfiltered	.20¾
600 flash S.R.	.22
630 flash S.R.	.24½
Bright stocks:	
8 color	.29½
6½ plus color in dilution	.28

NEUTRAL OIL

200-3 color	.27½
150-3 color	.24

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.04125
125-127 a.m.p.		.0425
128-130 a.m.p.		.0450
133-135 a.m.p.		.0525
135-137 a.m.p.		.0550
Crude scale:		
124-126 w.s.	.0260	.0270
124-126 y.s.	.0245	.0250

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Talco (Nov. 1, 1936)	.65
Altus and Tipton, Okla.‡	1.03
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gulf Oil Corp. Talco by Humble Oil & Refining Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.18
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	.87
Elk Basin, Wyo., light *†	1.18
Frannie, Wyo., heavy*	.62
Frannie, Wyo., light (Nov. 4, 1936)	.70
Hogback, N. Mex.*	1.21
Pondera, Mont. (Jan. 26, 1936)*	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo. (Nov. 1, 1936)†	1.08½
Artesia, N. Mex. (Jan. 9, 1936)‡	.80
Maljamar, N. Mex. (Jan. 9, 1936)‡	.80
Fort Collins and Wellington, Colo. (Jan. 9, 1936)‡	See Note
Florence, Colo.	.98
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.88
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont. (June 5, 1936)	1.15
Cat Creek, Mont.	1.28
Cut Bank, Mont.	1.35

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Southwest Texas

(January 9, 1936)

Saxet (Nov. 1, 1936)	.95
Mirando (Nov. 1, 1936)	.90
Pettus	1.35
Taft (Nov. 1, 1936)	.95
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85
Flour Bluff (Nov. 1, 1936). See gravity table	

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duval by Texas Co.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex. (Nov. 1, 1936)	.95
Refugio, Tex., heavy (Nov. 1, 1936).	.95
Tomball, Tex.	1.30
Lafitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La. (Jan. 16, 1936)	1.05
Evangeline, La.	1.07
O'Connor (Nov. 1, 1936)	.95
McFaddin (Nov. 1, 1936)	.95
Satsuma (Nov. 1, 1936)	1.15
Heyser, light (Nov. 1, 1936)	1.15
Heyser, heavy (Nov. 1, 1936)	.90
Placedo (Nov. 1, 1936)	.90
Plymouth (Nov. 1, 1936)	
...See gravity table for Gulf Coast pools	
Welsh, La.	.96

Middle Western States

OHIO OIL CO.

Lima (Sept. 22, 1936)	$1.15
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)*	1.23
Midland, Mich. (Sept. 16, 1936)*	1.32
Midland, Mich. (Sept. 28, 1936)†	1.37
West Branch, Mich. (Sept. 16, 1936)	1.16
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky (Nov. 1, 1936)	1.28

*Posted by Simrall Corp. and Pure Oil Co. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. †Old Dutch Refining Co.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$.75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana, El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita counties, Arkansas.

Eastern States

TIDE WATER PIPE LINE CO.

(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.

(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.13
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 18, 1936)	1.33

PENNZOIL CO.

(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A — Includes Cochran, Franklin, Hamilton and Doolittle districts.	2.42
Group B — Includes Tidioute district.	2.41
Group C — Includes Turkey and Tidioute districts.	2.40
Group D — Includes Bear Creek and Porkey districts.	2.39
Group E — Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts. Price depends on lengths of pipe line haul to plant at Oil City.	2.36

PURE OIL CO.

(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.13
Bradford Hollow, W. Va.	2.13
Kelly Creek, W. Va.	2.13

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clean naphtha	2.70
Discolored naphtha	2.44
Crude oil, 50 gravity	2.32
Crude oil, 45 to 49.9	2.12
Crude oil, 40 to 44.9	1.55

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$.895

*F.o.b. ship, based on October transactions and exclusive of production and export taxes and bar dues.

H. W. Lane, deputy field manager in Iran for Anglo-Iranian Oil Co., has departed from Tulsa after spending several weeks in the local offices of the Shell Petroleum Corp.

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Flour Bluff, Turtle Bay Amaltuac Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$.92	....	$.82
20-20.9	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	....	....	....	....	$.75	....	....	....
29-29.9	.96	.86	.93	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.03	.98	1.05	1.00	.88	.83	$1.24	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Oreutt*
14-14.9	$.80	$.79	$.74	$.78	$.78	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.70	$.70	$.70	....	....	$.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.72
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.74	.74	.71	$.70	....	.75	.74
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.92	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.72	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.75	....	.87	.88
25-25.9	1.03	.95	.82	1.02	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	.93
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	....	....	....	$1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1936 High	1936 Low	Week ended Dec. 12 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1935 High	1935 Low	1934 High	1934 Low
125½	75	2,800	104	100½	102	Amerada Corp.	788,675	N.P.	50cQ	10-31-36	$2.00	80	48½	55⅝	39
35⅛	26⅜	9,200	31½	30⅝	30¾	Atlantic Refining	2,664,904	$25	50cQ¶	12-15-36	1.25	28	20½	35¼	21½
35⅞	21	58,600	37¾	31	37¾	Barber Co.	387,149	$10	50c	12-10-36	.50	22½	11¾	23½	12
21⅜	14⅛	37,400	21⅜	20	21⅜	Barnsdall Oil Co.	2,131,090	$5	20cQ	11-2-36	.80	14¾	5⅞	10	5⅞
23⅜	14	47,000	18	17⅛	17½	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.40	15¾	3⅜	19¼	6⅝
15¼	11½	73,900	14⅞	14¼	14⅝	Consolidated Oil Corp.	13,983,287	N.P.	40cQ¶	11-16-36	.80	12¼	6½	14¼	7¼
40½	28⅛	31,600	40½	38¾	40½	Continental Oil of Delaware	4,682,671	$5	25c Spl.	12-15-36	1.50	35	15⅛	22¾	15¾
13½	6⅜	205,100	13½	10⅞	13½	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅝	2½
30⅞	17¼	6,000	29⅜	28¾	29	Mid-Continent Petroleum	1,843,872	$10	75cSA	12-1-36	1.15	20½	9½	14¾	9⅛
26¼	16¾	12,600	26½	21½	26½	Mission Corporation	1,399,345	N.P.	....	.....	.45	17¾	10⅜	..	..
75½	19⅞	3,000	71¼	67¼	70¾	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
17½	12⅛	55,300	16½	15½	15¾	Ohio Oil Co.	6,563,377	N.P.	35cSA	12-15-36	.60	14¼	9¼	15⅞	8½
21⅜	11¾	11,300	21⅜	17¾	21	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	14	6¾	9⅜	5½
4¼	1⅜	5,500	3⅞	3¼	3¼	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
49⅜	38⅛	18,500	47⅝	46¼	47⅜	Phillips Petroleum	4,152,836	N.P.	$1Q¶	12-1-36	2.50	40	13¾	20¾	13⅜
23⅜	11⅞	17,600	23⅜	22⅜	23¼	Plymouth Oil Co.	1,050,000	$5	40c	12-22-36	.90	13	6½	16¾	7¼
24⅞	16	40,800	19⅜	18⅜	19	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6⅛
43⅝	30½	13,900	40	36⅝	39¼	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	12-15-36	1.00	36⅞	20¾	33⅜	20¾
28	14⅜	15,000	27¼	25¾	26⅞	Shell Union Oil	13,070,625	N.P.	25c	12-15-36	.25	16½	5½	11½	6
127½	110½	4,800	125¾	124⅞	125½	Shell Union Oil 5½% pfd.	400,000	$100	26⅛c	12-15-36	28.87½	111	63⅛	89	57
6¾	3½	1,200	4	3⅞	3⅞	Simms Petroleum	461,698	$10	$1.25 liq.	7-20-36	2.25 liq.	18¾	4¾	17⅛	7¼
43	19½	18,700	43	38	42⅞	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
17½	12½	52,000	16⅛	15½	15¾	Socony-Vacuum	31,151,075	$15	25cSpl.	12-15-36	.70	15¾	10⅝	19⅞	12½
47⅝	35	23,100	41⅛	40	40⅞	Standard Oil of California	13,014,754	N.P.	30cQ¶	12-15-36	1.20	41⅛	27¾	42⅞	26½
45¼	32¾	12,700	44⅞	43½	44⅛	Standard Oil (Indiana)	15,215,677	$25	$1.25Q¶	12-15-36	2.40	33⅜	23	32¾	23¼
30¾	25	400	30⅝	30	30⅝	Standard Oil of Kansas	200,000	$10	$1	12-26-36	1.00	32	20	41	26
70⅛	51⅛	26,500	67⅛	65¾	66½	Standard Oil of New Jersey	25,856,081	$25	$1.25SA¶	12-15-36	2.00	52⅜	35¾	50⅛	39¼
91	72	300	77	76½	76½	Sun Oil	1,733,013	N.P.	25cQ**	12-15-36	$1 & 6% Stk.	77	60½	74¼	51½
50⅜	28⅞	25,000	50	48⅜	50	Texas Corp.	9,340,069	$25	25cQ†	1-1-37	1.50	30¼	16½	29⅜	19⅝
8⅞	4⅜	98,700	8⅞	8¼	8¼	Texas Gulf Producing Co.	888,094	N.P.	5c	12-15-36	.05	4¾	2½	7	3⅜
15¼	7½	17,000	13½	12⅝	12⅞	Texas Pacific Coal & Oil	880,703	$10	25c	8-1-36	.25	9¼	3¼	6½	2½
21⅝	14⅜	7,900	20⅛	19½	19¾	Tide Water Associated	5,642,342	N.P.	15cQ	12-1-36	.70	15⅞	7⅝	14⅜	8
106½	100⅝	700	105	104¾	104⅞	Tide Water Associated pfd.	626,221	$100	$1.50Q	1-2-37	6.00	104½	84	87	64½
28½	20¾	6,600	25⅜	24	24⅜	Union Oil of California	4,386,070	$25	25cQ	11-10-36	1.00	24	14¾	20½	11½
31⅝	22⅝	5,800	27¾	26	27¼	Union Tank Car Co.	1,200,000	N.P.	30cQ	12-1-36	1.20	26½	20⅞	25¾	15⅝
5¼	2¾	6,000	5	4½	4⅝	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras. **Plus 6% stock.

New York Curb Exchange

1936 High	1936 Low	Week ended Dec. 12 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1935 High	1935 Low	1934 High	1934 Low
21	13¼	3,700	19½	17¾	18	Bridgeport Machine Co.	260,000	N.P.	$1	12-21-36	$1.00	14⅛	3¾	3¾	½
50	39¾	150	46½	46	46½	Buckeye Pipe Line Co.	200,000	$50	$1Q	12-15-36	3.25	42½	30½	38	26
4⅞	1⅞	19,900	2⅜	2	2⅜	Carib Syndicate	799,020	25c	....	.....	....	4¼	1⅝	5½	1½
124¾	105	200	115	112	113	Chesebrough Mfg. Co.	120,000	$25	$2.50Q†	12-21-36	7.00	157	115	150	116
7⅜	3	63,300	3¾	3½	3¾	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	¾	4¼	1¼
4⅛	1½	43,500	3⅝	3	3⅜	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	½
34¾	19⅞	11,700	33⅝	32	33¼	Creole Petroleum	6,974,356	$5	25cSA	12-15-36	.50	23¾	10	14⅞	9⅝
17¼	9	10,100	17¼	16⅛	16⅞	Darby Petroleum	351,390	$5	25cSA	7-15-36	.50	8⅞	4	7½	4⅛
6¾	1⅞	2,000	6⅛	5⅜	5¾	Derby Oil & Refining	263,162	N.P.	....	.....	....	2	¾	2¼	1
47	38½	No sales ..	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	11-2-36	4.00	38	33¼	37	30
117	72	7,300	108⅞	105½	107	Gulf Oil Corp.	4,538,101	$25	75c†	12-10-36	1.50, 100% Stk.	74¾	50¼	76¾	49¾
76½	57	7,500	75	73¼	74⅞	Humble Oil & Refining	8,923,935	N.P.	50c†	12-26-36	1.50	64	44	49½	33¼
24½	20	8,300	20¾	20⅛	20⅛	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-1-36	1.25	22½	15⅜	17⅞	12⅝
9¾	5½	1,100	8⅛	8	8	Indiana Pipe Line	300,000	$10	20c Spl.	12-17-36	.80	6⅛	3⅝	6⅞	3⅝
39⅝	32⅞	8,500	35	34¼	34⅝	International Petroleum	14,247,088	N.P.	$1.25†‡	12-1-36	2.50	39¾	28	33⅜	19⅜
15⅜	9⅞	15,400	14¾	12¾	13⅛	Louisiana Land & Exp.	3,000,000	N.P.	20cQ†	12-15-36	.50	11⅜	4⅜	5	2⅛
15½	7⅜	6,400	14¾	14½	14½	Lion Oil Refining	270,000	N.P.	25cQ	12-26-36	.75	8⅛	3½	6	3⅜
14¼	9⅞	5,700	11⅝	11½	11½	Lone Star Gas	5,382,723	N.P.	20c	12-24-36	.60	10⅞	4½	8¾	4¼
8⅜	5	3,800	6¼	5⅞	6	Mountain Producers	1,682,182	$10	30cSA	12-21-36	.60	5¾	4⅛	5½	4
23	17⅝	8,200	18⅜	17½	18	National Fuel Gas	3,810,183	N.P.	25cQ	10-15-36	1.00	20	11¾	18⅛	13⅛
15¾	9¼	1,100	10⅝	10	10⅝	National Transit	509,000	$12.50	35cSA	12-15-36	.75	10⅝	6¾	9½	7
4⅝	2⅞	800	4⅜	4¼	4⅜	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.10	3¼	2	2½	1¾
6⅝	1⅝	11,900	4¼	3⅞	4	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	2½	1	2¾	1
6¼	4¼	100	5⅛	5⅛	5⅛	New York Transit	100,000	$5	15cSA	10-15-36	.35	4⅞	3	4¾	3
9¾	4⅞	400	9¾	9	9	Northern Pipe Line	120,000	$10	35c	1-2-37	.40	8	5¼	7	4⅝
8⅜	3¼	50,600	8¼	7⅝	7⅞	Pantapec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4½	4,400	14⅛	13½	14⅛	Root Petroleum Co.	336,045	$1	25c	11-2-36	.50	5	1½	..	..
4¾	1⅞	2,400	4¼	3¼	4¼	Ryan Consolidated	296,931	N.P.	....	.....	....	2½	⅝	3⅜	⅞
43¼	32½	1,000	43¼	42⅞	43	South Penn Oil	1,200,000	$25	90c†	12-29-36	2.60	34½	21⅝	26½	17½
7⅞	3¼	700	5¼	4⅜	5¼	Southern Pipe Line	100,000	$10	10cSA	9-1-36	.25	5	3⅞	5½	3½
60	44¾	No sales ..	..	..	..	South West Penna. Pipe Lines	35,000	$50	$1Q	10-1-36	13.00	56	44¼	47	41
23⅜	17⅛	700	20	19½	19½	Standard Oil of Kentucky	2,604,790	$10	50cQ†	12-15-36	1.35	24	18	18⅜	14⅝
14⅝	11	No sales ..	..	..	..	Standard Oil of Nebraska	188,403	$25	25c	12-19-36	.25	12	7¾	16⅞	8¼
40	21¾	3,400	37¼	34¼	35	Standard Oil of Ohio	753,740	$25	$1.50†	12-21-36	2.00	23⅝	11½	28½	12¼
5	2⅝	20,800	4⅛	3⅝	4⅛	Sunray Oil	1,610,810	$1	5c	12-21-36	.10	2⅞	⅞	2	1/16
9¾	5⅜	2,800	6½	6⅛	6⅜	Texon Oil & Land	336,028	$2	15cQ	12-28-36	.60	6⅞	5	11	4⅜

*Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Landis Diehead Is Designed for Threading Oil-Field Tools

A special heavy-duty taper-cutting diehead for handling threads of large diameters, steep tapers, and extra lengths, is announced by the Landis Machine Co., Waynesboro, Pa. This special 6-inch Landmatic augments the line of dieheads with

taper attachment previously manufactured in sizes up to 4 inches. The head is of the six-chaser type and was designed for threading devices used in the oil field, such as tooljoints, drillstems, etc.

This head is a stationary-type head adapted for use on a heavy-duty turret lathe. An adjustable bar, mounted on some stationary part of the machine, retards the cam-carrier as the head advances onto the work. The adjustable bar is set to have contact with the cam-carrier just as the part to be threaded enters the die. The sliding movement of the cam along the cam-shoe allows the chasers to recede at a uniform rate and produces a tapered thread corresponding to the taper of the cam. The head opens automatically when the cam trips off the end of the cam-shoe.

Before the head is closed, the carriage must be returned a sufficient distance to clear the stop-bar. The adjustment for thread length limits the forward travel of the cam-carrier and insures threads of uniform diameter and length.

This diehead can be supplied for cutting various diameters, tapers, and thread lengths. It was primarily designed for cutting 6-inch O.D. thread, 4-pitch, 2-inch taper per foot, and 5-inch length of thread. The same head can also be adapted for cutting 5½-inch O.D. thread, 4-pitch, 3-inch taper per foot, 4¾ inches long and 4⅝-inch O.D. thread, 4-pitch, 3-inch taper per foot and 4 inches long.

Bulletins, Booklets and Other Literature for the Trade

The Wheatley Pumper, published by Wheatley Bros., Tulsa, and sent free on request written on business stationery, is out with its second number, containing matter of interest to the oil man.

Among the articles in the current issue of the Bridgeport Bulletin, published by the Bridgeport Machine Co., Wichita, Kans., is one describing and illustrating the company's new store and material yards, in the Odessa, Tex., field.

Bulletin TS-3000, containing 24 pages and cover, released by the Precision Scientific Co., 1736 North Springfield Ave., Chicago, tells how to conduct accurate B.t.u. tests with a flow-type gas calorimeter. It also includes essential calorimeter tables reproduced from Bureau of Standards circular No. 65, now out of print.

The Edge Moor Iron Works, 30 Rockefeller Plaza, New York, announces a new boiler catalog covering all the types of water-tube boilers which it manufactures and including such accessories as water walls, air preheaters and waste-heat boilers.

The Allis-Chalmers Manufacturing Co., Milwaukee, Wis., has released another attractive steam turbine bulletin, No. 1181, covering its standard line of high-pressure, noncondensing steam turbine units of the three-valve reaction type suitable for top turbine service, or furnishing steam for high-pressure process work.

Baker Oil Tools, Inc., Huntington Park, Calif., presents "for your enjoyment," its December number of Friendly Chat. This little publication is just what its name suggests, breathes a fine philosophy of life, and contains just enough about Baker tools to make the reader want to know more about them.

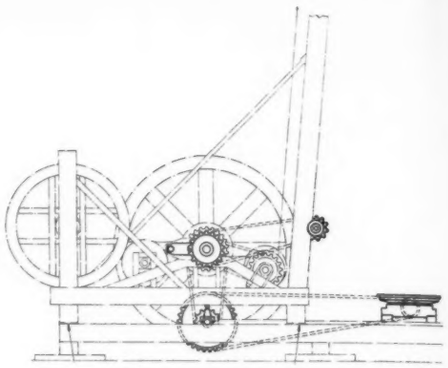
The new pocket-size catalog of 290 pages published by the Boston Gear Works, Inc., 955 West Washington Boulevard, Chicago, covers the company's line of power-transmission equipment, including gears, speed-reducers, ratiomotors, chain drives, ball bearings, etc.

A bulletin describing a new line of fully bronze-bushed standard iron-body wedge gate valves has just been published by the Kennedy Valve Manufacturing Co., Elmira, N. Y. Large sectional views, with references to 33 outstanding features of design, are given.

The current issue of the Armstrong Trap Magazine, published by the Armstrong Machine Works, Three Rivers, Mich., presents No. 23 of the "Trap Experiences." "Don't always blame the trap. Something else may be wrong."

For Fields Needing Both Cable and Rotary Drilling Tools

In some oil fields both the cable-tool and rotary systems of drilling are necessary to get the best results. Examples in point are parts of West Texas and the glacial-drift territory of

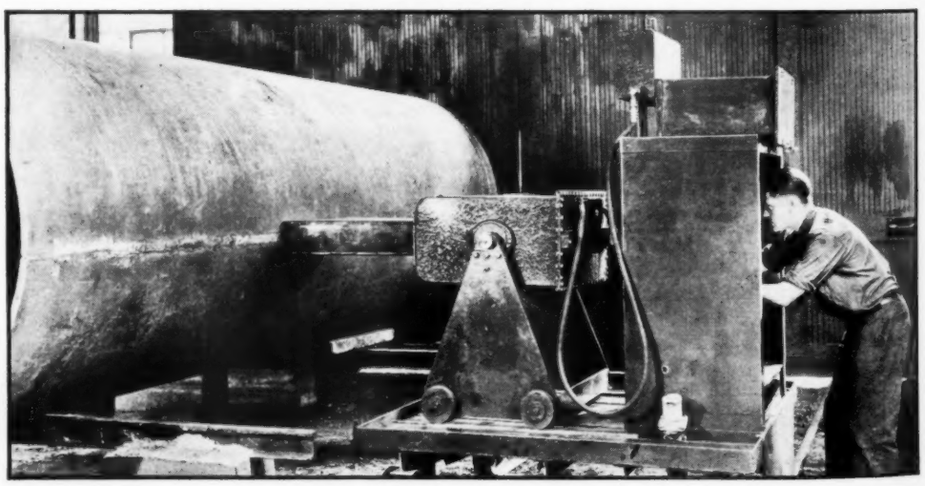


Michigan. In both of these districts the National rotary attachment for National portable drilling machines is reported to have proven a successful means of handling such conditions.

The attachment consists of a rotary table drive and a cathead drive and shaft. It is simple and can be inexpensively applied to every National drilling machine. Since the calf-reel is used as the drawworks, and the controls are not disturbed, changing from one system to the other is quick and convenient. A complete description is available in a recently published bulletin.

OIL-FIELD BOILER BELIEVED FIRST OF ITS TYPE

What is believed to be the first high-pressure boiler ever made with welded barrel and dome, under U-68 (Class I) rules of the A.S.M.E. code for fusion-welded vessels, was completed recently



by Farrar & Thefts, Inc., Buffalo, N. Y. The new boiler, of locomotive type, is for use in oil fields.

The barrel, shown in the accompanying illustration, is 16½ feet long, 62½ inches outside diameter and made of steel plate 1.15 inches thick, electrically welded by the shielded-arc process with equipment supplied by the Lincoln Electric Co., Cleveland, Ohio. Welded construction of the barrel eliminated much calking of seams. The manufacturer reports that the seams remain permanently tight in the field, assuring freedom from maintenance expense. The two longitudinal welds of the barrel were hammer-tested at 575 pounds and leak-tested at 700 pounds hydrostatic pressure, revealing high-quality leakproof seams. The welding was done with "Fleetweld 6" electrode, which provides weld metal having tensile strength of 65,000 to 75,000 pounds per square inch; ductility of 20 to 30 per cent; elongation in 2 inches and density of 7.82 to 7.86 grams per cubic centimeter. Corrosion resistance of such welds is greater than that of mild rolled steel.

PATTERSON-BALLAGH OFFERS NEW FIELD SERVICE

The Patterson-Ballagh Corp. has put in operation a fleet of Dodge pickup trucks in charge of experienced men who offer prompt field service for users of Patterson-Ballagh protectors, drillpipe stabilizers, line-spoolers, swivel-bumpers and the new mudguns. In the accompanying picture, taken in the Rodessa field, are Fred Bennett, in charge of service for Louisiana, and (right) W. L. McGill, assistant Louisiana service manager. Trucks similar to those shown in the illustration are being operated out of Houston and Corpus Christi, Tex.; Hobbs, N. M., and Oklahoma City.

Motor Designed for Use Where Danger of Explosion Exists

For use where explosive gases or dust may create a hazard the Westinghouse Electric and Manufacturing Co. has put on the market a new

and improved design of its type SK explosion-tested, fan-cooled, totally enclosed direct-current motors in sizes from 5 to 75 horsepower and 115, 230 and 550 volts. These motors are made to withstand an internal explosion of gas (methane) or coaldust without damaging the equipment or emitting sparks or flame which might ignite any surrounding gas.

The fan on the commutator end forces a large volume of cooling air through the air passages, making high continuous capacity possible with minimum size. Accessibility of the brushes and commutator is not interfered with by this mounting of the fan.

Here and There With Men Who Manufacture Equipment

The Chain Belt Co., Milwaukee, Wis., manufacturer of chain conveyors, construction machinery and sanitation equipment, has elected John T. Brown, former works manager, a vice president.

A stock distribution of 100 per cent has been ordered by the board of directors of Filtrol Co. of California, it is announced by Lester L. Robinson, president.

The Humphrey Steel Products Co. has appointed the Fouts Co. as exclusive sales representative for the Humphrey diamond-type steel oil derricks, with headquarters at 602 Burt Building, Dallas, Tex. Derrick stocks will be carried in Kilgore, Corpus Christi and Odessa, Tex.; Shreveport, La., and Tulsa.

Arthur Eckhardt, who formerly represented the Magnus Chemical Co., Garwood, N. J., manufacturer of cleaning materials, industrial soaps, sulfonated oils, emulsifying agents and metal-working lubricants, in Iowa and Illinois, has been appointed to represent Magnus products in Texas.

The M. O. Johnston Oilfield Service Corp., Los Angeles, Calif., has issued a comprehensive treatise which gives detailed information on uses and operation of testing tools, etc.

Carbon Deposits Are Removed Fast by New Tube-Cleaner

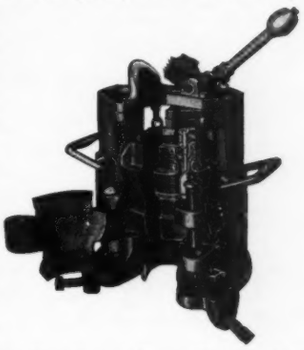
An improved tube-cleaner, especially designed for quicker removal of extremely hard carbon deposits in refinery equipment, is announced by the Roto Co., 156-158 Sussex Ave., Newark, N. J. Test runs of the new "Dictator" model in some of the country's leading refineries are said to have shown a material reduction in cleaning.

Air passage in the new tube-cleaner have been greatly enlarged, and back pressure has been eliminated throughout the operating range. It therefore produces greater speed and power than former models. A quickly adjustable three-stage volume control enables the cleaner to operate to maximum advantage under various conditions of air pressure and volume.

Other improvements have been made in design, materials, lubrication and cutting and finishing-heads, but the Rotocentric principle has been retained in the motor. It has only two moving parts, a shaft and a single solid-fiber blade.

New Automatic Tubing Spider Fits Any Size Casinghead

Improvements in the O'Bannon automatic tubing spider are announced by the Walter O'Bannon Co. of Tulsa. This new spider, which will fit any casinghead and handle all sizes of tubing, has been reduced 4 inches in overall height, making for greater accessibility and easier wrenching of tubing on casing-heads. Four oversize slips give greater bearing area, insuring quick



action in gripping the pipe and guarding against "crimping" of the tubing. The bowl is recessed so that the slips recede instantly when disengaged. This prevents excessive slip wear.

The oversize slips in the O'Bannon tubing spider provide unusual safety in operation. Wickers in the slips are so designed as to be practically self-cleaning. An auxiliary slip, the dog-jaw, rides the tubing constantly and sets the main slips if the pipe starts back into the hole for any reason. This action is automatic. When running tubing into the hole the dog-jaw is held back by a convenient lever. All wearing parts are heat-treated.

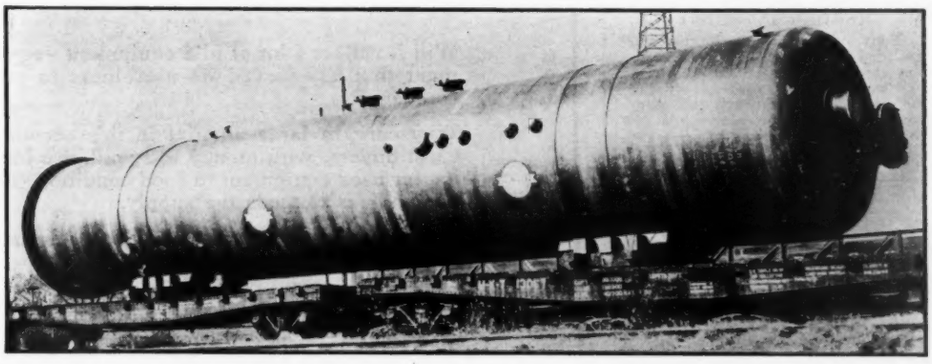
Link-Belt Boxcar-Loader

Link-Belt Co., 2045 West Hunting Park Avenue, Philadelphia, has developed a new type of inexpensive boxcar-loader for handling bulk materials without creating a lot of dust in the operation. The antifriction belt conveyor constituting the loading element is supported on a horizontal boom arranged so it can be racked back and forth, or rotated 360 degrees, by hand, on the castor-mounted truck on which the boom is mounted.

BIG BUBBLE-TOWER GIVES RAILROAD MEN PROBLEM

Here is the largest single chunk of steel, all in one piece, ever shipped out of Oklahoma—perhaps the largest ever shipped out of any of the Mid-Continent states. This bubble-tower, manufactured by Black, Sivalls & Bryson, Inc., Oklahoma City, Okla., was so heavy that its bolstered load overweighted a flatcar of 100,000 pounds capacity and sagged it 2½ inches to start with. The sag increased to about 5 inches by the time the tower reached Fort Worth, Tex., half-way to its destination, the refinery of the Cosden Oil Corp. at Big Spring, Tex.

Railroad men held a caucus at every stop along the line, but they saw no way to pick up the tower and put a new car under it, so they let it travel on through. The vessel is 86 feet long and 12 feet 6 inches in diameter on the inside; 13 feet 7½ inches in diameter over the base-ring. It was necessary to take the protection-lids off some of the nozzles to get through a bridge or two.



Oil Man's Calendar

January

11-15—Detroit, Mich., Society of Automotive Engineers, Book-Cadillac Hotel.

11-15—New Orleans, American Road Builders' Assn., highway exhibit and convention.

12—New York, Mining and Metallurgical Society of America.

16-24—Detroit, Mich., first International Consumers Petroleum Exposition.

18-19—Bismark, N. D., Northwest Petroleum Association, North Dakota Division, Patterson Hotel.

21-22—Minneapolis, Minn., Northwest Petroleum Association, Minnesota Division, West Hotel.

February, 1937

8-10—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel.

23-25—Milwaukee, Annual Convention, Wisconsin Petroleum Association.

23-25—Columbus, Ohio, Ohio Petroleum Marketers Association, annual convention and Trade Exposition, Hotel Deshler-Wallick.

23-25—Milwaukee, Wis., Wisconsin Petroleum Association annual convention, Plankinton Hotel.

Memphis, Tenn., Southwest Sales Conference, Natural Gas Department.

March

1-5—Chicago, American Society for Testing Materials, regional meeting and committee week, Palmer House.

15-19—Philadelphia, Pa., National Oil Burner & Air Conditioning exposition and convention, Convention Hall, Commercial Museum.

17-19—Los Angeles, Calif., A.A.P.G. annual meeting.

April

7-9—Birmingham, Ala., American Institute of Mining and Metallurgical Engineers, Open Hearth Conference.

8-10—Shreveport, La., Petroleum Industry Electrical Assn.

19-24—Houston, Tex., Oil Equipment & Engineering Exposition.

15-16—Cleveland, Ohio, 34th semiannual meeting National Petroleum Association, Cleveland Hotel.

May

10—Kansas City, Mo., Spring meeting Natural Gas Department, American Gas Association.

June

1-3—Colorado Springs, Colo., American Petroleum Institute, mid-year meeting, Broadmoor Hotel.

CLASSIFIED ADVERTISING

Royalties—Production

Brokers—Salesmen

Sell in the most active area in the United States — The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Securities and Exchange Commission. Inquiries invited.

B. D. BUCKLEY

Paul Brown Bldg., St. Louis, Mo.

ROYALTIES PURCHASING TRUST, LTD., Moorgate Hall, Moorgate, London, E. C. 2., England, are buyers of prod. oil royalties.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

DIRECTED READER INTEREST

Your ad in these columns will be read by more oil-minded readers than in any other medium in the world. Direct your advertising to these readers through the regular use of this service.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

Situations Wanted

PRODUCTION man with 18 years' experience in Kans., now employed, but want to make change. I can produce your crude for less money. Available in 10 days. Box 4110, Canton, Kansas.

Help Wanted

ENGINEER WANTED
Large oil company requires Mechanical Engineer with five or more years' practical production and gasoline plant experience. Must be graduate recognized university. Salary dependent on qualifications. Mail applications in full detail to Box H-573, The Oil and Gas Journal, Tulsa, Oklahoma.

Royalties—Production

OKLAHOMA CITY AND FITTS
Royalties Quoted Dealers.
W. E. COOK
Perrine Bldg., Oklahoma City, Okla.

PRODUCING OIL ROYALTIES
for dealers
H. P. BOWEN
842 Kennedy Bldg., Tulsa, Okla.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
214 Kennedy Bldg., Tulsa, Okla.

WANT PARTY to drill oil or gas well for us on PERMITS up to 4,000 acres, percentage basis or may sell oil rights in Baker-Glendive Anticline. Drilling test October 1936 PROVES Anticline Largest oil field in U. S. J. P. Blichfeldt, Mgr., 253 Plymouth Bldg., Minneapolis, Minnesota.

FOR SALE—ROYALTY IN LEA and ROOSEVELT COUNTIES, N. MEX. under major oil company leases. J. W. WALLRICH, Lovington, New Mexico.

Royalties—Production

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

F. A. SANSOME

Maintains a Complete Trading Organization for Brokers, Banks and Dealers
In
Oil Royalties
522 Fifth Avenue, New York, N. Y.

FOR SALE—6½ royalty acres HUMBLE—R. M. MEANS, Andrews County, Texas. $250 per acre for quick sale. Address Box H-534, The Oil and Gas Journal, Tulsa, Oklahoma.

ANDREW J. BARRETT
The Philtower
Tulsa, • Oklahoma.

Royalties—Production

Mayflower Associates
Carey Trust
Missouri-Kansas Pipe Line Par $5
Larkins-Warr Trust
Oklahoma Carey Trust
Southwest Investment Trust
Washington Carey Trust
Provident Trust
Hendrick Ranch Royalties
Cosden Oil 6s 1938
Group No. 1 Oil
Oklahoma Day Trust
Cimarron Trust

BOUGHT — SOLD — QUOTED

We deal in royalties, working interests and all unlisted oil securities. Inquiries invited.

HENRY KEMP & CO.
Telephone WOrth 2-3310
Bell System Teletype N.Y. 1-1733
111 Broadway New York

VAN POOL — EAST TEXAS
Bought — Sold — Wholesale.
W. R. Brown & Co., Inc.
14 Prospect Pl., East Orange, N. J.

Incorporations

DELAWARE CHARTERS: Complete incorporating and organizing service $35. Submitted forms, Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Professional Services

J. Lawrence Fox, Atty. at Law Knickerbocker Bldg., Baltimore, Md. Corporations also Departmental in Washington.

Financing

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. Amster Leonard, Fox Theater Building, Detroit, Michigan.

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

WANTED Refinery Superintendent to buy interest in 1000 bbl. Ref. Box 1091, Wichita Falls, Texas.

WHAT ABOUT YOUR INVENTORY DECEMBER 31?

Will it reflect a lot of idle equipment—equipment that has served its usefulness to your company?

Why carry a large amount in this account? Cash buyers, with money to spend, are looking for used equipment in good condition. The demand far exceeds the supply.

A small ad in these columns will reach these parties and the cost is trivial.

Classified Department.

THE OIL AND GAS JOURNAL
TULSA » » » » OKLAHOMA

CLASSIFIED ADVERTISING

For Sale—Equipment

GASOLINE PLANT EQUIPMENT

We are now dismantling two gasoline plants containing good used gasoline plant equipment:

Type 2500 complete Southwestern distillation unit
2—80 H.P. Collins portable water tube boilers
2—100 H.P. Reeves gas engines
2—225 H.P. Watts-Miller twin gas driven compressors
1—80 H.P. Bessemer gas driven compressor
2—80 H.P. Clark gas driven compressors
10—Sectional corrugated structural steel iron buildings from size 8′ x 8′ x 8′ to 30′ x 60′ x 22′.

Pumps, tanks, absorbers, Braun heat exchangers, Westcott meters, pipe, valves, fittings, etc. etc. etc.

Phone— Wire— Write—

BROWN-STRAUSS CORPORATION

Main Office—1446 Guinotte—Kansas City, Mo.

Branches:
Arkansas City, Kansas Sapulpa, Oklahoma Pyote, Texas

For Sale—Equipment

Steel Storage Tanks

50—Practically new 80,000-bbl. steel roof tanks, latest type.

125—55,000-bbl. storage tanks at great saving. Prices quoted on request for tanks standing, cut down, or reerected on your grade. Have all other sizes available. All tanks strictly guaranteed.

All kinds refinery equipment, valves, fittings, machinery, pumps and pump repair parts.

Wire—Phone—Write—W. C. Berry

SONKEN-GALAMBA CORPORATION

64 North Second St. Kansas City, Kansas.

1—model 32 Buckeye ditcher.
2—model F Buckeye backfillers.
1—18 in. Barber-Greene ditcher.
3—pipe hauling trailers.
Also 6 in. pipe hooks, line up clamps, chain tongs, and lay tongs. Great Lakes Eng Corp., Saukville, Wisconsin.

DISMANTLING REFINERY

Cont. Oil Co., Florence, Colo.
Send us your inquiries.

Special prices on Pipe, Valves, Fittings—Merco Nordstrom Valves.

Write to
Box H-541, The Oil and Gas Journal
Tulsa, Oklahoma.

WELDERS: All sizes and makes. A.C. and D.C. Transformer type, electric motor driven and engine driven. Reconditioned A-1. Service Co., 3732 Cedar Ave., Cleveland, Ohio.

TWO 350 H.P. vertical 4 cylinder Bruce Mac Beth Gas Engines and direct connected 312 K.V.A. Westinghouse Alternators, 3 phase, 60 cycle, 2300 volt, built in 1927-29—and one 250 H.P. vertical 4 cylinder Bruce Mac Beth and direct connected 210 K.V.A., 3 phase, 60 cycle, 2300 volt General Electric Alternator. Address Box H-572, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE
C. E. Johansson System Paulin Surveying Aneroid in a leather carrying case. Has never been used. Purchase price $150.00. Will accept $60.00 cash subject to inspection. Altitude range 0 to 3600 feet. Address Box H-574, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE

Oil and Gas Lease on strip of about 11 acres in East Texas Oil Field on which four drilling permits have been granted. Attractively located. Intersected by 550 contour as shown by Railroad Commission map. Good title. Price $3,000 cash and $10,000 in oil out of ⅛ of ⅞ production. 5% brokerage. Truman Warren, 715 Peoples Bank Building, Tyler Texas.

FOR SALE: Two 240 H.P., 180 R.P.M., 3 cylinder Busch-Sulzer Diesel engines in first-class condition with one 187 K W, 240 V, A. C. belt driven generator and direct connected exciter. These engines are now connected together in tandem but could be separated to operate as single units. Will sell either or both units. Price $12.50 per H.P. F.O.B. our plant. STANDARD-TILTON MILLING COMPANY, Dallas, Texas.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

SEVERAL USED ROTARY RIGS
Spudders and Drilling Machines.
Several Steel Derricks & Rotary Equip.
J. S. Daniel, Beacon Bldg., Tulsa

Equipment Wanted

WANT a good pipe machine. 2" to 6⅝". Central Supply Co., 109 North Elgin, Tulsa, Oklahoma.

Leases—Production

CORE DRILLING
Any nature — Anywhere
Latest equipment
Will take interest deal with reliable Independent Operator.
PAUL R. KING
Box 341, Hutchinson, Kans.

BUY—SELL
Proven Leases in Louisiana-Arkansas
WILLIAM MONROE LAYTON
40 Wall St., Suite 1437, New York City.
323 Commercial National Bank Bldg., Shreveport, La.

LANDS Leases, Royalties, anywhere, bought, sold. Lands, $2 acre, up. Leases 25c acre, up. Advise needs. American Investment Co., Houston, Texas.

GET in West Virginia's new deep sand lease play, buy acreage near new test wells of major companies, $1 to $10 per acre. Ohio and Illinois leases for sale. Royalties and production bought and sold. H. P. McGinnis, Box 827, Parkersburg, West Virginia.

Leases—Production

I own 3,000 acres free in N. Pittsburgh & Atoka Cos. 40 to 1,000 A. tracts, no trades. Cash sale, lease or royalty, $5 to $25 per A. Townsite on 2 R.RS. near production. J. E. Cavanagh, Baker, Ore.

For lease or will trade 75 acre. Okla. County, Okla. Northeast of state capitol N-NE-SE-NE 34-14N-1W. Address Robert C. Lee, 6351 Woodrow St., Detroit, Michigan.

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

NEW MEXICO, Chaves County, 8500 acre solid lease block, 9 years to run, 5c rentals, price 25c per acre. Roy G. Barton, Box 191, Clovis, New Mexico.

FOR SALE—⅞th Oil and Gas rights, 314 acres Sioux Co., Neb., ½ mile from well now drilling. H. F. Drobisch, Peoria, Illinois.

SMALL OPERATORS opportunities, drill in Eastern Kansas. (Shallow) Semi-proven to partially producing acreage for reliable parties. Long life, (no proration), markets, cheap drilling. Arrange—inspection. Advise needs fully. Address Box H-571, The Oil and Gas Journal, Tulsa, Oklahoma.

OWN LEASE proven on all sides. Good geology. Almost sure to develop into valuable property. Will give part lease for test well. Investment approximately $20,000.00. Will send details to responsible parties. W. F. Flemming, 641 Kennedy Building, Tulsa, Oklahoma.

Leases—Production

ROYALTY, leases, 4,000 acres Brooks County, Texas, west of Alta Verde field, active territory. D. N. Clark, Albia, Iowa.

DRILLING contractor has proven lease in heart old major Kans. field. Will guarantee well to extent of putting up collateral against loss from dry hole, no proration. Address Box H-577, The Oil and Gas Journal, Tulsa, Oklahoma.

DRILLING BLOCKS, Leases, Western, Central Kansas, Sumner to Smith counties may be arranged for—worthy of consideration from reliable operators. State required specifications. Address Box H-570, The Oil and Gas Journal, Tulsa, Oklahoma.

For Let—Lease and Drilling Contract. Block of Acreage. Nine miles northeast of Newkirk. Box 633, Arkansas City, Kans.

Offer Drilling block Bartlesville Sand trend, Greenwood County, Kansas. No one but substantial operator considered. J. E. Leader, Topeka, Kansas.

FOR SALE—Producing well on 160 acres, Russell County, Kansas. First break in Oswald Lime, 39 gravity oil. 900 barrels December allowable. Good reason for selling. Address Box H-575, The Oil and Gas Journal, Tulsa, Oklahoma.

Crude Oil Production

DO YOU seek an outlet FOR CRUDE OIL? Wire or write Cargo Oil Exports, Ltd., Chrysler Building, New York City.

A LARGE Company will advance cash for crude oil. We will lay lines and gather your crude. Write full particulars. No brokers. Address Box H-560, The Oil and Gas Journal, Tulsa, Oklahoma.

Patent Attorneys

REGISTERED PATENT ATTORNEYS
United States and Canada
Before disclosing your invention to anyone, send for blank form:
"Evidence of Conception."
Instructions "How to Establish Your Rights" and complete information FREE!
LANCASTER, ALLWINE & ROMMEL
418 Bowen Building,
Washington. D. C.

Mailing Lists

MAILING LISTS

Royalty Investors, by Deed. Retail royalty brokers.

Lists of producers, refiners, gaso. mfrs., pipe lines, drilling contractors, supply companies and machine shops, etc.

OIL INDUSTRY MAILING LIST CO.
909 Tulsa Loan Bldg., Tulsa, Okla.

Ranches and Farm Lands

Cheap cattle ranch. Big lake, 560 acres. $2,800 CASH. Best grass and water in East Colorado. J. Brown, Florence, Colorado.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*	
1 Inch	*13 times*	*4.50*	*per inch*
1 Inch	*26 times*	*4.00*	*per inch*
1 Inch	*52 times*	*3.50*	*per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY

CLASSIFIED RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgment is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*
7 Lines	*$2.45*	*$4.20*	*$5.95*	*$7.70*
8 Lines	*2.80*	*4.80*	*6.80*	*8.80*
9 Lines	*3.15*	*5.40*	*7.65*	*9.90*
10 Lines	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

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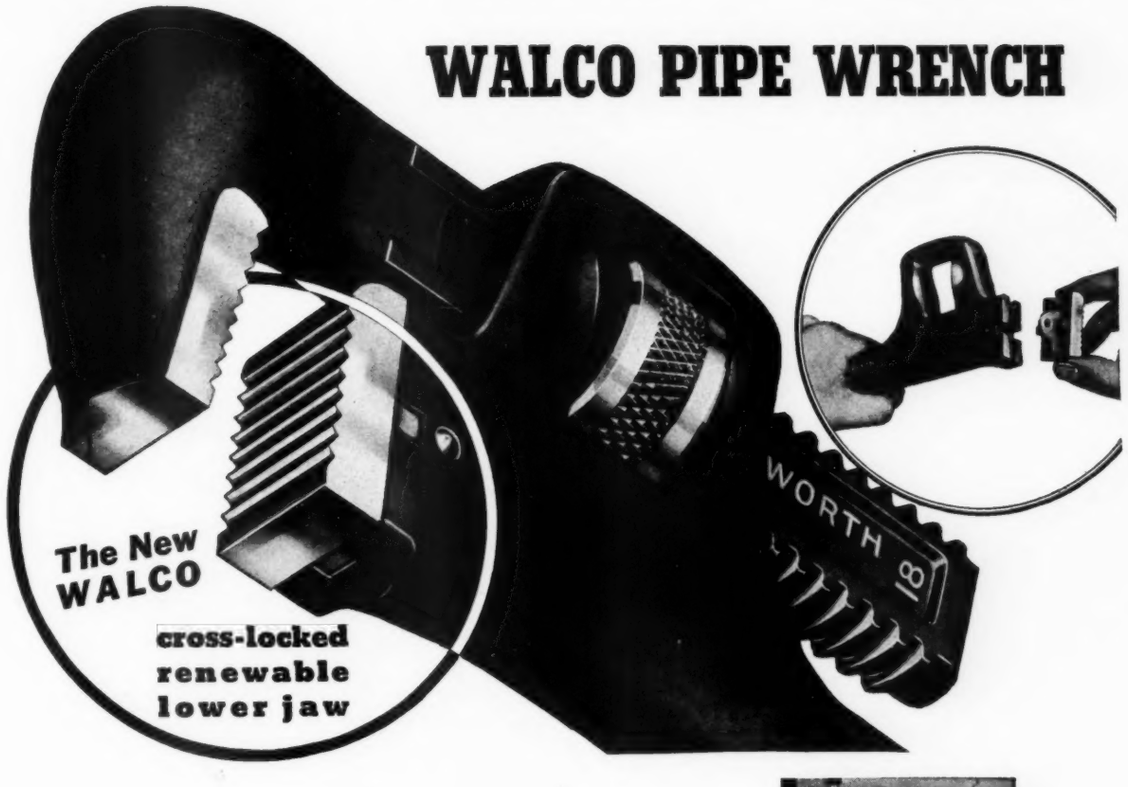

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ARGENTINE REPRESENTATIVE:
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